

<110> Human Genome Sciences, Inc.

<120> Lyme Disease Vaccines

<130> PB481US

<140> Unassigned

<141> 2001-04-24

<150> PCT/US98/12718

<151> 1998-06-18

<150> 60/057,483

<151> 1997-09-03

<150> 60/053,344

<151> 1997-07-22

<150> 60/053,377

<151> 1997-07-22

<150> 60/050,359

<151> 1997-06-20

<160> 148

<170> PatentIn Ver. 2.0

<210> 1

<211> 216

<212> PRT

<213> Homo sapiens

<400> 1

Met Ser Lys Ile Phe Leu Leu Phe Asn Ala Gly Phe Phe Phe Leu Lys  
1 5 10 15

Ile Ile Tyr Val Phe Ser Tyr Pro Glu Ile Lys Asn Phe Ser Arg Gln  
20 25 30

Asp Pro Val Phe Ser Asp Leu Lys Ile Lys Val Leu Lys Tyr Asn Lys  
35 40 45

Lys Gln His Ile Pro Leu Phe Phe Tyr Ser Tyr Lys Val Lys Lys Gly  
50 55 60

Asp Thr Phe Phe Lys Ile Ala Asn Lys Ile Asn Gly Trp Gln Ser Gly  
65 70 75 80

Ile Ala Thr Ile Asn Leu Leu Asp Ser Pro Ala Val Ser Val Gly Gln  
85 90 95

Glu Ile Leu Ile Pro Ser Lys Lys Gly Val Phe Val Phe Asp Ser Lys  
100 105 110

Asp Tyr Arg Phe Asn Asn Leu Leu Leu Ala Thr Arg Asp Leu Ala Lys  
115 120 125

Ala Glu Lys Val Lys Ile Lys Arg Asn Asp Arg Val Tyr Glu Phe Tyr  
130 135 140

Phe Phe Asp Phe Val Lys Asn Pro Asp Phe Gly Leu Phe Ser Gly Thr  
145 150 155 160

Glu Leu Leu Phe Phe Leu Asn Ala Asn Phe Ile Phe Pro Leu Lys Lys  
165 170 175

Phe Ile Val Ser Ser Asp Phe Gly Phe Arg Asn Asp Pro Phe Thr Gly  
180 185 190

Asn Lys Ser Phe His Thr Gly Ile Asp Leu Ala Ala Pro Met Asn Ala  
195 200 205

Glu Val Tyr Leu Leu Leu Leu Glu  
210 215

<210> 2

<211> 195

<212> PRT

<213> Homo sapiens

<400> 2

Ser Tyr Pro Glu Ile Lys Asn Phe Ser Arg Gln Asp Pro Val Phe Ser  
1 5 10 15

Asp Leu Lys Ile Lys Val Leu Lys Tyr Asn Lys Lys Gln His Ile Pro  
20 25 30

Leu Phe Phe Tyr Ser Tyr Lys Val Lys Lys Gly Asp Thr Phe Phe Lys  
35 40 45

Ile Ala Asn Lys Ile Asn Gly Trp Gln Ser Gly Ile Ala Thr Ile Asn  
50 55 60

Leu Leu Asp Ser Pro Ala Val Ser Val Gly Gln Glu Ile Leu Ile Pro  
65 70 75 80

Ser Lys Lys Gly Val Phe Val Phe Asp Ser Lys Asp Tyr Arg Phe Asn  
85 90 95

Asn Leu Leu Leu Ala Thr Arg Asp Leu Ala Lys Ala Glu Lys Val Lys  
100 105 110

Ile Lys Arg Asn Asp Arg Val Tyr Glu Phe Tyr Phe Phe Asp Phe Val  
115 120 125

Lys Asn Pro Asp Phe Gly Leu Phe Ser Gly Thr Glu Leu Leu Phe Phe  
130 135 140

Leu Asn Ala Asn Phe Ile Phe Pro Leu Lys Lys Phe Ile Val Ser Ser  
145 150 155 160

Asp Phe Gly Phe Arg Asn Asp Pro Phe Thr Gly Asn Lys Ser Phe His  
165 170 175



Thr Gly Ile Asp Leu Ala Ala Pro Met Asn Ala Glu Val Tyr Leu Leu  
 180 185 190

Leu Leu Glu  
 195

<210> 3  
 <211> 651  
 <212> DNA  
 <213> Homo sapiens

<400> 3  
 atgagtaaaa ttttttttatt atttaaatgca gggtttctttt ttttaaaaaat aatttatgtt 60  
 ttttcttatc cagaaataaa aaattttctca aggcaagatc ctgttttttc tgatcttaaa 120  
 attaaagttt taaaatataa caaaaaacaa catattcctc tgttttttta ctcataataa 180  
 gttaaaaaag gggatacttt ttttaaaatt gccaatataa taaatggatg gcagtcgggc 240  
 attgctacta ttaattttatt agattctcct gctgtgagtg ttgggcaaga gattcttatt 300  
 cccagtaaaa aaggagtttt tgtttttgat agtaaagatt atagatttaa taatttgctt 360  
 ttagcaacaa gggatcttgc taaagctgaa aaggtaaaaa ttaaaaggaa cgacagagtt 420  
 tatgaatttt atttttttga ttttggttaag aatccagatt ttggactttt ttcaggcaca 480  
 gaattgcttt ttttcttaaa tgccaatttt atttttcctt taaaaaaatt tattgttagt 540  
 tctgattttg gatttagaaa tgaccctttc actggcaaca aaagtttcca tacaggaata 600  
 gatcttgcag ctccaatgaa tgctgaagtg tatcttcttc ttctggaata g 651

<210> 4  
 <211> 588  
 <212> DNA  
 <213> Homo sapiens

<400> 4  
 tcttatccag aaataaaaaa tttctcaagg caagatcctg ttttttctga tcttaaaatt 60  
 aaagttttaa aatataacaa aaaacaacat attcctctgt ttttttactc atataaagtt 120  
 aaaaaagggg atactttttt taaaattgcc aataaaataa atggatggca gtccggcatt 180  
 gctactatta atttattaga ttctcctgct gtgagtgttg ggcaagagat tcttattccc 240  
 agtaaaaaag gaggttttgt ttttgatagt aaagattata gatttaataa tttgctttta 300  
 gcaacaaggg atcttgctaa agctgaaaag gtaaaaatta aaaggaacga cagagtttat 360  
 gaattttatt tttttgattt tgtaaagaat ccagattttg gacttttttc aggcacagaa 420  
 ttgctttttt tcttaaatgc caattttatt tttcctttta aaaaatttat tgtagttct 480  
 gattttggat ttagaaatga ccctttcact ggcaacaaaa gtttccatac aggaatagat 540  
 cttgcagctc caatgaatgc tgaagtgtat cttcttcttc tggaatag 588

<210> 5  
 <211> 169  
 <212> PRT  
 <213> Homo sapiens

<400> 5  
 Val Lys Lys Tyr Ile Lys Thr Ile Phe Leu Ile Ser Met Val Tyr Phe  
 1 5 10 15

Tyr Cys Cys Thr Thr Ile Lys Ile Asn His Asp Tyr Glu Thr Asp Phe  
 20 25 30

Lys Val Leu Glu Ser Pro Ser Lys Tyr Ile Asn Ile Asp Val Ile Lys  
 35 40 45

Ala Thr Asn Glu Tyr Ile Tyr Ile Gln Ile Thr Asn Asn Ser Leu Asp  
 50 55 60

Val Val Lys Ile Asn Trp Gln Asn Thr Ser Leu Asn Asn Asp Lys Ile  
65 70 75 80

Val Leu Lys Lys Glu Asp Leu Thr Ile Asn Asn Glu Thr Gly Tyr Lys  
85 90 95

Asn Lys Tyr Arg Glu Phe Phe Ile Gly Pro Lys Thr Ser Phe Lys Phe  
100 105 110

Lys Val Tyr Pro Leu Lys Ile His Ser Lys Asn Lys Asn Ser Asn Asn  
115 120 125

Leu Ser Ser Thr Ile Lys Tyr Pro Ser Ile Phe Lys Leu Asn Ile Thr  
130 135 140

Lys Val Gly Ile Glu Ala Lys Lys Thr Ile Asn Val Leu Ile Thr Arg  
145 150 155 160

Thr Thr Lys Ile Asn Ile Thr Asn Lys  
165

<210> 6

<211> 152

<212> PRT

<213> Homo sapiens

<400> 6

Cys Cys Thr Thr Ile Lys Ile Asn His Asp Tyr Glu Thr Asp Phe Lys  
1 5 10 15

Val Leu Glu Ser Pro Ser Lys Tyr Ile Asn Ile Asp Val Ile Lys Ala  
20 25 30

Thr Asn Glu Tyr Ile Tyr Ile Gln Ile Thr Asn Asn Ser Leu Asp Val  
35 40 45

Val Lys Ile Asn Trp Gln Asn Thr Ser Leu Asn Asn Asp Lys Ile Val  
50 55 60

Leu Lys Lys Glu Asp Leu Thr Ile Asn Asn Glu Thr Gly Tyr Lys Asn  
65 70 75 80

Lys Tyr Arg Glu Phe Phe Ile Gly Pro Lys Thr Ser Phe Lys Phe Lys  
85 90 95

Val Tyr Pro Leu Lys Ile His Ser Lys Asn Lys Asn Ser Asn Asn Leu  
100 105 110

Ser Ser Thr Ile Lys Tyr Pro Ser Ile Phe Lys Leu Asn Ile Thr Lys  
115 120 125

Val Gly Ile Glu Ala Lys Lys Thr Ile Asn Val Leu Ile Thr Arg Thr  
130 135 140

Thr Lys Ile Asn Ile Thr Asn Lys  
145 150

<210> 7  
 <211> 585  
 <212> DNA  
 <213> Homo sapiens

<400> 7  
 gtggaaaaat ttcttttatt ccaggaaatg aaaatattgc agatcttggt tttcataaaa 60  
 ctaagtagaa atattgtcaa aaaatacata aaaacaatat ttctgatttc aatgggttat 120  
 ttttattggt gtacgacaat aaaaataaac catgattatg aaactgattt taaagttcta 180  
 gaatctccct ctaaatacat caatatagat gtaattaaag ctacaaatga atatatttat 240  
 attcaaatta caaacaatag cttagacgta gtaaaaaataa attggcaaaa cactagtctt 300  
 aacaacgata agatcgtctt aaaaaaagaa gatcttaca taaacaatga aacagggtat 360  
 aaaaataaat acagagagtt ttttattggt cctaaaactt catttaaatt taaagtatat 420  
 ccactaaaaa ttcatcttaa aaacaaaaat agcaataact taagctcaac tattaaatat 480  
 ccgtctattt ttaagctcaa cataacaaaa gtaggaattg aagcaaaaaa aacaataaat 540  
 gttttaataa caagaactac aaaaattaat attactaata aatga 585

<210> 8  
 <211> 459  
 <212> DNA  
 <213> Homo sapiens

<400> 8  
 tggtgtacga caataaaaaat aaaccatgat tatgaaactg attttaaagt tctagaatct 60  
 ccctctaaat acatcaatat agatgtaatt aaagctacaa atgaatatat ttatattcaa 120  
 attacaaaca atagcttaga cgtagtaaaa ataaattggc aaaacactag tcttaacaac 180  
 gataagatcg tcttaaaaaa agaagatctt acaataaaca atgaaacagg gtataaaaaat 240  
 aaatacagag agttttttat tggtcctaaa acctcattta aatttaaagt atatccacta 300  
 aaaattcatt ctaaaaacaa aaatagcaat aacttaagct caactattaa atatccgtct 360  
 atttttaagc tcaacataac aaaagtagga attgaagcaa aaaaaacaat aaatgtttta 420  
 ataacaagaa ctacaaaaat taatattact aataaatga 459

<210> 9  
 <211> 1146  
 <212> PRT  
 <213> Homo sapiens

<400> 9  
 Met Arg Glu Phe Leu Tyr Arg Asn Val Phe Lys Lys Ser Phe Ile Val  
 1 5 10 15  
 Phe Leu Ile Phe Leu Thr Phe Ser Asn Ala Ile Phe Ala Gln Thr Ile  
 20 25 30  
 Asp Asp Glu Asn Ser Lys Lys Arg Asp Lys Leu Thr Leu Ser Gln Lys  
 35 40 45  
 Ser Tyr Leu Arg Glu Leu Glu Leu Ser Thr Asp Glu Asp Leu Lys Lys  
 50 55 60  
 Trp Ala Leu Lys Glu Gly Leu Lys Glu Thr Asp Val Ser Lys Ile Arg  
 65 70 75 80  
 Glu Leu Leu Leu Lys Lys Phe Gly Ile Asp Pro Glu Leu Phe Ile Lys  
 85 90 95  
 Gly Lys Gly Leu Ala Gly Ser Gly Arg Tyr Lys Ile Ile Ile Glu Thr  
 100 105 110

Ala Asp Asn Leu Glu Asn Phe Thr Tyr Gly Leu Thr Lys Asp Glu Ser  
 115 120 125  
 Ile Ile Phe Glu Gly Arg Val Asn Ile Leu Val Glu Asp Ile Lys Glu  
 130 135 140  
 Asn Lys Lys His Asn Ile Lys Gly Asp Arg Ile Val Leu Asn Lys Asn  
 145 150 155 160  
 Ser Lys Lys Leu Tyr Ala Ile Gly Asn Val Glu Tyr Ile Leu Asp Met  
 165 170 175  
 Asp Thr Asn Glu Lys Leu Tyr Phe Tyr Gly Asn Glu Phe Leu Val Asp  
 180 185 190  
 Phe Asp Ser Gln Asn Phe Leu Leu Lys Asn Gly Ile Leu Gln Lys Lys  
 195 200 205  
 Met Gln Lys Asn Gln Ile Asp His Ile Leu Ser Phe Gly Gly Lys Val  
 210 215 220  
 Leu Lys Lys Ile Asp Asn Asp Val Thr Ile Leu Glu Gln Ala Phe Ala  
 225 230 235 240  
 Thr Thr Ser Lys Ile Pro Glu Pro Tyr Tyr Ser Ile Lys Ala Ser Lys  
 245 250 255  
 Ile Trp Ala Leu Pro Ser Gly Asp Phe Gly Phe Leu Asn Ala Ile Phe  
 260 265 270  
 Tyr Met Gly Arg Val Pro Val Phe Tyr Ile Pro Phe Phe Phe Arg Pro  
 275 280 285  
 Gly Asp Ser Leu Phe Phe Asn Pro Ser Leu Gly Leu Asn Pro Arg Lys  
 290 295 300  
 Gly Phe Ser Val Phe Asn Thr Val Tyr Leu Phe Gly Asn Lys Ser Ser  
 305 310 315 320  
 Ser Glu Asp Ser Ser Phe Leu Asp Phe Asp Phe Asn Ser Val Tyr Asn  
 325 330 335  
 Ser Gly Lys Lys Pro Tyr Ile Arg Asn Gly Tyr Leu Thr Tyr Phe Phe  
 340 345 350  
 Ala Glu Asn Leu Ala Pro Ser Val Asn Lys Asp Tyr Val Lys Leu Ile  
 355 360 365  
 Phe Asp Ile Tyr Ala Asn Leu Gly Phe Tyr Ser Gly Ile Asp Phe Asn  
 370 375 380  
 Leu Gly Asn Thr Leu Gly His Phe Lys Thr Leu Glu Gly Asn Phe Gly  
 385 390 395 400  
 Leu Gly Phe Thr Arg Asn Val Tyr Ser Tyr Asp Gly Gly Tyr Tyr Pro  
 405 410 415

Phe Asp Asn Arg Thr Leu Lys Gln Ser Leu Phe Ser Phe Ser Asn Leu  
 420 425 430  
 Asn Lys Gly Asp Val Phe Gly Phe Glu Val Pro Phe Arg Tyr Leu Phe  
 435 440 445  
 Lys Phe Lys Thr Glu Phe Leu Leu Ser Asp Ala Leu Phe Ser Val Val  
 450 455 460  
 Leu Glu His Tyr Ser Asp Pro Tyr Val Asn Ile Asp Phe Arg Asp Arg  
 465 470 475 480  
 Ile Glu Ser Ala Thr Phe Phe Ser Leu Leu Asn Leu Asp Lys Asp Ser  
 485 490 495  
 Val Lys Glu Gln Thr Ser Ile Ser Thr Phe Asp Trp Asn Leu Ser Ser  
 500 505 510  
 Phe Tyr Lys Arg Thr Phe Asn Asp Gly Ser Ile Leu Asp Tyr Lys Leu  
 515 520 525  
 Asn Asn Leu Gly Leu Ser Phe Lys Leu Ser Gly Tyr Glu Asn Leu Tyr  
 530 535 540  
 Val Lys Ser Pro Leu Glu Lys Pro Lys Asp Val Asn Asp Pro Thr Arg  
 545 550 555 560  
 Lys Trp Phe Tyr Leu Glu Arg Ile Tyr Ala Pro Tyr Ile Asp Leu Asn  
 565 570 575  
 Phe Gln Lys Asp Leu Tyr Asn Asn Gln Trp Thr Phe Pro Ala Asp Thr  
 580 585 590  
 Lys Glu Met Ile Met Arg Pro Glu Ile Lys Asn Leu Glu Asp Lys Asp  
 595 600 605  
 Asn Asp Lys Lys Ser Val Lys Glu Lys Asn Thr Lys Lys Thr Thr Glu  
 610 615 620  
 Leu Thr Lys Asp Leu Tyr Ile Pro Pro Glu Pro Ile Thr Leu Lys Asn  
 625 630 635 640  
 Ile Asp Gln Ser Asp Ser Phe Phe Ile Arg Phe Gly Ile Asn Pro Tyr  
 645 650 655  
 Leu Arg Asn Asn Val Phe Phe Asp Asn Tyr Gly Ile Thr Ser Pro Lys  
 660 665 670  
 Asp Phe Asn Tyr Glu Ile Lys Asn Tyr Leu Phe Asp Ile Lys Asn Lys  
 675 680 685  
 Thr Asp Ile Lys Ile His Ala Asp Phe Tyr Asn Arg Leu Ile Thr Phe  
 690 695 700  
 Glu Asn Leu Leu Tyr Leu Asn Thr Ile Glu Tyr Ser Pro Leu Asn Lys  
 705 710 715 720  
 Asp Phe Lys Val Glu Asp Lys Asp Lys Lys Ser Glu His Ser Ile Ile

	725		730		735
Asn Gln Ile	Asn Leu Asn Leu Leu	Pro Phe Ile Arg Tyr	Pro Leu Phe		
	740	745	750		
Ser Arg Ser Thr	Leu Lys Phe Glu Asn Lys Ala Thr	Leu Tyr Ser Phe			
	755	760	765		
Asn Lys Lys Tyr Asp	Ser Asp Val Lys Ser Leu Val Asn Lys Asn Ser				
	770	775	780		
Ser Ile Phe Leu Ser Asp	Pro Glu Thr Phe Tyr Gln Ser Leu Thr Ala				
	785	790	795		800
Ser Leu Ile Tyr Asp	Tyr Asp Tyr Phe Thr Thr Glu Leu Ser Gly Glu				
	805	810			815
Leu Lys Asn Ser Phe Glu Asp	Ile Lys Ala Ser Ser Glu Leu Lys Leu				
	820	825			830
Ser Leu Asp Phe Pro Tyr	Leu Leu Gln Glu Ala Gly Ile Gly Ile Lys				
	835	840			845
Tyr Tyr Lys Lys Phe Lys	Glu Asp Ala Met Lys Asn Ser Gly Ile Ser				
	850	855			860
Ala Val Gln Ser Pro Leu	Glu Pro Gln Lys Pro Ser Ser Pro Tyr Lys				
	865	870			880
Asn Leu Glu Met Ser Pro	Ala Leu Tyr Tyr Lys Ile Glu Pro Arg Tyr				
	885	890			895
Leu Asp Tyr Phe Lys Phe	Ser Phe Leu Val Ala Tyr Asp Pro Leu Ile				
	900	905			910
Asn Arg Val Ser Glu Leu	Ser Phe Lys Leu Asn Val Phe Asp Phe Gln				
	915	920			925
Phe Leu Phe Ala Met Lys	Asp Asp Phe Glu Tyr Asn Tyr Asp Pro Leu				
	930	935			940
Lys Gly Asp Phe Ser Lys	Ile Gly Thr Thr Thr Lys Leu Val Pro Tyr				
	945	950			960
Ser Leu Asp Ser Ser Tyr	Lys Lys Glu Leu Tyr Val Leu Thr Phe Phe				
	965	970			975
Asp Asn Lys Leu Ser Phe	Thr Leu Gly Val Asp Val Gly Trp Lys Ile				
	980	985			990
Asn Leu Gln Lys Phe Thr	Asp Asn Glu Leu Arg Ser Ala Leu Thr Leu				
	995	1000			1005
Lys Phe Lys Tyr Thr Glu	Phe Leu Glu Ile Tyr Phe Ser Thr Leu Ser				
	1010	1015			1020
Ile Asn Thr Lys Thr Phe	Lys Tyr Phe Lys Gly Tyr Met Asp Gln Ile				
	1025	1030			1035
					1040

Gly Leu Glu Pro Val Asn Phe Phe Val Asp Leu Ser Lys Ser Phe Asn  
 1045 1050 1055

Phe Phe Asn Ser Gln Asp Arg Lys Asp Ser Leu Phe Lys Ile Lys Lys  
 1060 1065 1070

Phe Ser Ser Gly Phe Lys Phe Asn Phe Tyr Asp Trp Lys Phe Val Gly  
 1075 1080 1085

Glu Tyr Asn Leu Glu Pro Asp Leu Leu Arg Gly Ser Asp Gly Ile Tyr  
 1090 1095 1100

Ser Pro Ile Trp Arg Asn Asn Phe Thr Ile Tyr Ile Ser Trp Asn Phe  
 1105 1110 1115 1120

Phe Ala Pro Ile Lys Ala Ser Phe Glu Asn Asn Lys Asp Thr Asn Tyr  
 1125 1130 1135

Glu Phe Ile Ile Asn Arg Lys Thr Lys Lys  
 1140 1145

<210> 10

<211> 1120

<212> PRT

<213> Homo sapiens

<400> 10

Ile Phe Ala Gln Thr Ile Asp Asp Glu Asn Ser Lys Lys Arg Asp Lys  
 1 5 10 15

Leu Thr Leu Ser Gln Lys Ser Tyr Leu Arg Glu Leu Glu Leu Ser Thr  
 20 25 30

Asp Glu Asp Leu Lys Lys Trp Ala Leu Lys Glu Gly Leu Lys Glu Thr  
 35 40 45

Asp Val Ser Lys Ile Arg Glu Leu Leu Leu Lys Lys Phe Gly Ile Asp  
 50 55 60

Pro Glu Leu Phe Ile Lys Gly Lys Gly Leu Ala Gly Ser Gly Arg Tyr  
 65 70 75 80

Lys Ile Ile Ile Glu Thr Ala Asp Asn Leu Glu Asn Phe Thr Tyr Gly  
 85 90 95

Leu Thr Lys Asp Glu Ser Ile Ile Phe Glu Gly Arg Val Asn Ile Leu  
 100 105 110

Val Glu Asp Ile Lys Glu Asn Lys Lys His Asn Ile Lys Gly Asp Arg  
 115 120 125

Ile Val Leu Asn Lys Asn Ser Lys Lys Leu Tyr Ala Ile Gly Asn Val  
 130 135 140

Glu Tyr Ile Leu Asp Met Asp Thr Asn Glu Lys Leu Tyr Phe Tyr Gly  
 145 150 155 160

Asn Glu Phe Leu Val Asp Phe Asp Ser Gln Asn Phe Leu Leu Lys Asn  
 165 170 175  
 Gly Ile Leu Gln Lys Lys Met Gln Lys Asn Gln Ile Asp His Ile Leu  
 180 185 190  
 Ser Phe Gly Gly Lys Val Leu Lys Lys Ile Asp Asn Asp Val Thr Ile  
 195 200 205  
 Leu Glu Gln Ala Phe Ala Thr Thr Ser Lys Ile Pro Glu Pro Tyr Tyr  
 210 215 220  
 Ser Ile Lys Ala Ser Lys Ile Trp Ala Leu Pro Ser Gly Asp Phe Gly  
 225 230 235 240  
 Phe Leu Asn Ala Ile Phe Tyr Met Gly Arg Val Pro Val Phe Tyr Ile  
 245 250 255  
 Pro Phe Phe Phe Arg Pro Gly Asp Ser Leu Phe Phe Asn Pro Ser Leu  
 260 265 270  
 Gly Leu Asn Pro Arg Lys Gly Phe Ser Val Phe Asn Thr Val Tyr Leu  
 275 280 285  
 Phe Gly Asn Lys Ser Ser Ser Glu Asp Ser Ser Phe Leu Asp Phe Asp  
 290 295 300  
 Phe Asn Ser Val Tyr Asn Ser Gly Lys Lys Pro Tyr Ile Arg Asn Gly  
 305 310 315 320  
 Tyr Leu Thr Tyr Phe Phe Ala Glu Asn Leu Ala Pro Ser Val Asn Lys  
 325 330 335  
 Asp Tyr Val Lys Leu Ile Phe Asp Ile Tyr Ala Asn Leu Gly Phe Tyr  
 340 345 350  
 Ser Gly Ile Asp Phe Asn Leu Gly Asn Thr Leu Gly His Phe Lys Thr  
 355 360 365  
 Leu Glu Gly Asn Phe Gly Leu Gly Phe Thr Arg Asn Val Tyr Ser Tyr  
 370 375 380  
 Asp Gly Gly Tyr Tyr Pro Phe Asp Asn Arg Thr Leu Lys Gln Ser Leu  
 385 390 395 400  
 Phe Ser Phe Ser Asn Leu Asn Lys Gly Asp Val Phe Gly Phe Glu Val  
 405 410 415  
 Pro Phe Arg Tyr Leu Phe Lys Phe Lys Thr Glu Phe Leu Leu Ser Asp  
 420 425 430  
 Ala Leu Phe Ser Val Val Leu Glu His Tyr Ser Asp Pro Tyr Val Asn  
 435 440 445  
 Ile Asp Phe Arg Asp Arg Ile Glu Ser Ala Thr Phe Phe Ser Leu Leu  
 450 455 460  
 Asn Leu Asp Lys Asp Ser Val Lys Glu Gln Thr Ser Ile Ser Thr Phe



465		470		475		480
Asp Trp Asn Leu Ser Ser Phe Tyr Lys Arg Thr Phe Asn Asp Gly Ser						
		485		490		495
Ile Leu Asp Tyr Lys Leu Asn Asn Leu Gly Leu Ser Phe Lys Leu Ser						
		500		505		510
Gly Tyr Glu Asn Leu Tyr Val Lys Ser Pro Leu Glu Lys Pro Lys Asp						
		515		520		525
Val Asn Asp Pro Thr Arg Lys Trp Phe Tyr Leu Glu Arg Ile Tyr Ala						
		530		535		540
Pro Tyr Ile Asp Leu Asn Phe Gln Lys Asp Leu Tyr Asn Asn Gln Trp						
		545		550		555
Thr Phe Pro Ala Asp Thr Lys Glu Met Ile Met Arg Pro Glu Ile Lys						
		565		570		575
Asn Leu Glu Asp Lys Asp Asn Asp Lys Lys Ser Val Lys Glu Lys Asn						
		580		585		590
Thr Lys Lys Thr Thr Glu Leu Thr Lys Asp Leu Tyr Ile Pro Pro Glu						
		595		600		605
Pro Ile Thr Leu Lys Asn Ile Asp Gln Ser Asp Ser Phe Phe Ile Arg						
		610		615		620
Phe Gly Ile Asn Pro Tyr Leu Arg Asn Asn Val Phe Phe Asp Asn Tyr						
		625		630		635
Gly Ile Thr Ser Pro Lys Asp Phe Asn Tyr Glu Ile Lys Asn Tyr Leu						
		645		650		655
Phe Asp Ile Lys Asn Lys Thr Asp Ile Lys Ile His Ala Asp Phe Tyr						
		660		665		670
Asn Arg Leu Ile Thr Phe Glu Asn Leu Leu Tyr Leu Asn Thr Ile Glu						
		675		680		685
Tyr Ser Pro Leu Asn Lys Asp Phe Lys Val Glu Asp Lys Asp Lys Lys						
		690		695		700
Ser Glu His Ser Ile Ile Asn Gln Ile Asn Leu Asn Leu Leu Pro Phe						
		705		710		715
Ile Arg Tyr Pro Leu Phe Ser Arg Ser Thr Leu Lys Phe Glu Asn Lys						
		725		730		735
Ala Thr Leu Tyr Ser Phe Asn Lys Lys Tyr Asp Ser Asp Val Lys Ser						
		740		745		750
Leu Val Asn Lys Asn Ser Ser Ile Phe Leu Ser Asp Pro Glu Thr Phe						
		755		760		765
Tyr Gln Ser Leu Thr Ala Ser Leu Ile Tyr Asp Tyr Asp Tyr Phe Thr						
		770		775		780

Thr Glu Leu Ser Gly Glu Leu Lys Asn Ser Phe Glu Asp Ile Lys Ala  
 785 790 795 800  
 Ser Ser Glu Leu Lys Leu Ser Leu Asp Phe Pro Tyr Leu Leu Gln Glu  
 805 810 815  
 Ala Gly Ile Gly Ile Lys Tyr Tyr Lys Lys Phe Lys Glu Asp Ala Met  
 820 825 830  
 Lys Asn Ser Gly Ile Ser Ala Val Gln Ser Pro Leu Glu Pro Gln Lys  
 835 840 845  
 Pro Ser Ser Pro Tyr Lys Asn Leu Glu Met Ser Pro Ala Leu Tyr Tyr  
 850 855 860  
 Lys Ile Glu Pro Arg Tyr Leu Asp Tyr Phe Lys Phe Ser Phe Leu Val  
 865 870 875 880  
 Ala Tyr Asp Pro Leu Ile Asn Arg Val Ser Glu Leu Ser Phe Lys Leu  
 885 890 895  
 Asn Val Phe Asp Phe Gln Phe Leu Phe Ala Met Lys Asp Asp Phe Glu  
 900 905 910  
 Tyr Asn Tyr Asp Pro Leu Lys Gly Asp Phe Ser Lys Ile Gly Thr Thr  
 915 920 925  
 Thr Lys Leu Val Pro Tyr Ser Leu Asp Ser Ser Tyr Lys Lys Glu Leu  
 930 935 940  
 Tyr Val Leu Thr Phe Phe Asp Asn Lys Leu Ser Phe Thr Leu Gly Val  
 945 950 955 960  
 Asp Val Gly Trp Lys Ile Asn Leu Gln Lys Phe Thr Asp Asn Glu Leu  
 965 970 975  
 Arg Ser Ala Leu Thr Leu Lys Phe Lys Tyr Thr Glu Phe Leu Glu Ile  
 980 985 990  
 Tyr Phe Ser Thr Leu Ser Ile Asn Thr Lys Thr Phe Lys Tyr Phe Lys  
 995 1000 1005  
 Gly Tyr Met Asp Gln Ile Gly Leu Glu Pro Val Asn Phe Phe Val Asp  
 1010 1015 1020  
 Leu Ser Lys Ser Phe Asn Phe Phe Asn Ser Gln Asp Arg Lys Asp Ser  
 1025 1030 1035 1040  
 Leu Phe Lys Ile Lys Lys Phe Ser Ser Gly Phe Lys Phe Asn Phe Tyr  
 1045 1050 1055  
 Asp Trp Lys Phe Val Gly Glu Tyr Asn Leu Glu Pro Asp Leu Leu Arg  
 1060 1065 1070  
 Gly Ser Asp Gly Ile Tyr Ser Pro Ile Trp Arg Asn Asn Phe Thr Ile  
 1075 1080 1085

Tyr Ile Ser Trp Asn Phe Phe Ala Pro Ile Lys Ala Ser Phe Glu Asn  
 1090 1095 1100

Asn Lys Asp Thr Asn Tyr Glu Phe Ile Ile Asn Arg Lys Thr Lys Lys  
 105 1110 1115 1120

<210> 11  
 <211> 3441  
 <212> DNA  
 <213> Homo sapiens

<400> 11  
 atgcgagaat tcctatacag gaatgttttt aaaaaatctt ttatagtatt tttatatttt 60  
 ttaacatttt ctaatgcaat ttttgcccag actatagatg atgaaaattc taaaaaaagg 120  
 gataagctaa ctttaagtca aaaatcttat ttaagagaac ttgagctttc aaccgatgag 180  
 gatttaaaaa aatgggcctt aaaagagggt ttaaaagaaa cagatgtttc aaaaatacga 240  
 gaattgcttt taaaaaagtt tgggaatagat cctgagcttt ttatcaaagg aaagggactt 300  
 gccggatctg gtagatataa aataatcatt gaaactgcag ataactctga aaatttcact 360  
 tatggactta ctaaagatga aagtattatt tttgaaggaa gagttaatat cttgggttgaa 420  
 gatattaaag aaaataaaaa gcacaatatt aaaggcgaca gaatagtcct taataagaac 480  
 tctaaaaaac tttatgctat tggaaatgtt gaatatattc ttgatatgga taccaatgaa 540  
 aagcttttatt tttatggcaa tgaatttctt gtcgattttg attctcaaaa ttttttatta 600  
 aaaaatggta ttcttcaaaa aaaaatgcaa aaaaatcaaa tagatcataat tctttcgttt 660  
 ggaggaaagg ttttaaaaaa gatagacaat gatgtttacca ttttgggaaca agcttttgca 720  
 acaactagta aaattccaga gccttactat tcaatcaagg ctctcaaaa atgggcattg 780  
 ccctcgaggag attttgggtt tttaaatgcc atattttaca tgggaagagt tccagtattt 840  
 tatattcctt ttttttccag accgggagat agtttggttt ttaatccatc tttaggtcta 900  
 aatccacgaa aaggtttttc tgtttttaat accgtttatc tttttggtaa taaatcttca 960  
 agtgaagatt cttctttttt ggattttgat ttcaattctg tttataattc gggtaaaaaa 1020  
 ccttatataa gaaatggata ttttaacttat ttttttgcag aaaatttagc acccagtggt 1080  
 aataaagatt atgttaagct tatttttgac attttgcta atctgggatt ttattctgga 1140  
 attgatttta atttgggcaa tactttgggg cattttaaaa ctttgggaagg aaattttgga 1200  
 ttgggtttta ccaggaatgt ttatagttac gatggaggat attatccttt tgataatagg 1260  
 actttaaaaa aatctctttt tagtttttcc aatcttaaca aaggagatgt atttgggttt 1320  
 gaagttcctt ttagatattt atttaaattt aaaacagaat ttcttttaag tgatgcactt 1380  
 ttctcggttg ttttagagca ctattctgac ccgtatgta atattgatt tagagatagg 1440  
 atagaaagtg ctacattttt ttctctttta aatttagata aagattcggg taaagagcaa 1500  
 actagcatta gcacttttga ttggaattta tcttcttttt ataagcgaac atttaatgac 1560  
 ggttcgattt tagattataa attaaataat ttaggtttta gttttaaatt gtcgggctat 1620  
 gaaaaatctt atgttaaatc tccttttagag aaaccaaagg atgttaatga tcctacaaga 1680  
 aaatgggttt atttggagag aatttatgct ccataatatt atttgaattt tcaaaaagat 1740  
 ctttacaata accaatggac atttccagct gatactaaag aaatgataat gcgcccagaa 1800  
 attaaaaatc tagaagataa agataatgat aaaaagagtg tgaaggagaa aaatactaaa 1860  
 aaaacaacag aattaaccaa agatttatat attcctccag aaccaattac tttaaaaaat 1920  
 attgatcaat ccgattcttt ttttattagg tttggcatta atccttattt aagaaataat 1980  
 gttttttttg ataattatgg cataacaagt ccaaaggact ttaattatga aataaaaaat 2040  
 tatttatatt atataaaaa taaaacggat ataaaaattc atgctgattt ttacaatcgt 2100  
 ttaattactt ttgaaaattt attatatctt aatfactatt agtatagtcc tttaaaataa 2160  
 gattttaaag ttgaagataa agataaaaaa agtgagcact ctattattaa ccaataaat 2220  
 ttaaacttgc ttctttttat tagatatcct ttattttcta gaagtacttt aaagtttgaa 2280  
 aataaggcta ctttatattc atttaataaa aaatatgatt ctgatgtaaa atctttgggt 2340  
 aataagaata gtagtatttt tttatctgat ccggaaactt tttatcaaag ttttaacagc 2400  
 tctttaattt atgattatga ttatttttact aactgagctt caggtgaatt aaaaaatagt 2460  
 tttgaagata ttaaagcttc ttctgagctt aaactttctt tagattttcc tttttgcta 2520  
 caagaagctg ggattggaat taaatattat aaaaagttaa aagaagatgc tatgaaaaac 2580

tctggaattt	ctgctgttca	aagtcctttg	gagcctcaaa	aaccatcatc	gccttataaa	2640
aatttagaaa	tgtctcctgc	tttgtattat	aaaattgagc	cgagatattt	ggattatttt	2700
aaatttagtt	tttttagtcg	ctatgatcct	ttgataaata	gagtttctga	acttttcttt	2760
aagcttaatg	tttttgattt	tcaatttttg	tttgctatga	aagacgactt	tgaatataat	2820
tatgatcctt	taaaaggaga	tttttccaag	attggtacta	caaccaaact	tgttccatat	2880
tcttttagatt	ctagttacaa	aaaggaattg	tacgttttaa	ctttttttga	caataagctt	2940
tcttttacct	tgggggtaga	tgttgggttg	aaaataaatt	tgcagaaatt	tacggataat	3000
gaacttcgat	ctgcattgac	tttgaagttt	aaatatacag	aattttttaga	aatttacttt	3060
tctactttat	ctattaatac	taagactttt	aaatatttta	aagggatatat	ggaccaaaatt	3120
ggtctagaac	ctgttaattt	ctttggtgat	ttatcaaaaat	ctttcaattt	ctttaattct	3180
caagacagaa	aagattcact	ttttaaaatt	aaaaaatttt	catcaggctt	taaattcaat	3240
ttttatgatt	ggaaatttgt	tggagaatat	aatttagaac	cagattttatt	aaggggatct	3300
gatgggattt	attctcctat	ttggagaaat	aattttacaa	tttatatttc	ttggaacttt	3360
tttgctccta	taaaagcgtc	atttgaaaac	aacaaagata	caaactacga	gtttattatt	3420
aatagaaaaa	caaaaaaata	a				3441

&lt;210&gt; 12

&lt;211&gt; 3363

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 12

atTTTTgccc	agactataga	tgatgaaaat	tctaaaaaaa	gggataagct	aactttaagt	60
caaaaatctt	atttaagaga	acttgagctt	tcaaccgatg	aggattttaa	aaaatgggcc	120
ttaaaagagg	gtttaaaaga	aacagatggt	tcaaaaatac	gagaattgct	tttaaaaaag	180
tttggaatag	atcctgagct	ttttatcaaa	ggaaagggac	ttgccggatc	tggtagatat	240
aaaataatca	ttgaaactgc	agataatctt	gaaaatttca	cttatggact	tactaaagat	300
gaaagtatta	tttttgaaag	aagagttaat	atcttgggtg	aagatattaa	agaaaaataa	360
aagcacaata	ttaaaggcga	cagaatagtc	cttaataaga	actctaaaaa	actttatgct	420
attggaaatg	ttgaatatat	tcttgatatg	gataccaatg	aaaagcttta	tttttatggc	480
aatgaatttc	ttgtcgattt	tgattctcaa	aattttttat	taaaaaatgg	tattcttcaa	540
aaaaaaatgc	aaaaaaatca	aatagatcat	attctttcgt	ttggaggaaa	ggtttttaaa	600
aagatagaca	atgatgttac	cattttggaa	caagcttttg	caacaactag	taaaattcca	660
gagccttact	attcaatcaa	ggcttctaaa	atatgggcat	tgccctcggt	agattttggg	720
tttttaaatg	ccatatttta	catgggaaga	gttccagtat	tttatattcc	tttttttttc	780
agaccgggag	atagtttggt	ttttaatcca	tcttttaggt	taaatccacg	aaaaggtttt	840
tctgttttta	ataccgttta	tctttttggt	aataaatctt	caagtgaaga	ttcttctttt	900
ttggattttg	atttcaattc	tgtttataat	tcgggtaaaa	aaccttatat	aagaaatgga	960
tattttaact	atttttttgc	agaaaattta	gcacccagtg	ttaataaaga	ttatgttaag	1020
cttatttttg	acattttatg	taattctggg	ttttattctg	gaattgattt	taatttgggc	1080
aatacttttg	ggcattttta	aactttggaa	ggaaattttg	gattgggttt	taccaggaat	1140
gtttatagtt	acgatggagg	atattatcct	tttgataata	ggacttttaa	acaatctctt	1200
tttagttttt	ccaatcttaa	caaaggagat	gtattttggg	ttgaagttcc	ttttagatat	1260
ttattttaaa	ttaaaacaga	atttctttta	agtgatgcac	ttttctcggt	tgttttagag	1320
cactattctg	accggtatgt	taatatgtat	tttagagata	ggatagaaag	tgctacattt	1380
ttttctcttt	taaaattaga	taaagattcg	gttaaagagc	aaactagcat	tagcactttt	1440
gattggaatt	tatcttcttt	ttataagcga	acattttaat	acggttcgat	tttagattat	1500
aaattaaata	atttaggttt	aagtttttaa	ttgtcgggct	atgaaaatct	ttatgttaaa	1560
tctccttttag	agaaaccaa	agatgttaat	gatcctacaa	gaaaatgggt	ttatttggag	1620
agaattttatg	ctccatatat	tgatttgaat	tttcaaaaag	atctttacaa	taaccaatgg	1680
acattttccag	ctgatactaa	agaaatgata	atgcgccag	aaattaaaaa	tctagaagat	1740
aaagataatg	ataaaaagag	tgtgaaggag	aaaaatacta	aaaaaacaac	agaattaacc	1800
aaagatttat	atattcctcc	agaaccaatt	actttaaaaa	atattgatca	atccgattct	1860
ttttttatta	ggtttggcat	taatccttat	ttagaaata	atgttttttt	tgataattat	1920
ggcataacaa	gtccaaagga	ctttaattat	gaaataaaaa	attatttatt	tgatataaaa	1980
aataaaacgg	atataaaaat	tcagtctgat	ttttacaatc	gtttaattac	ttttgaaaat	2040
ttattatata	ttaatactat	tgagtatagt	ccttttaata	aagattttta	agttgaagat	2100
aaagataaaa	aaagtggagca	ctctattatt	aaccaaataa	atttaaacct	gcttcctttt	2160

```

attagatata ctttattttc tagaagtact ttaaagtttg aaaataaggc tactttatat 2220
tcatttaata aaaaatatga ttctgatgta aaatcttttg ttaataagaa tagtagtatt 2280
tttttatctg atccggaaac tttttatcaa agtttaacag cctctttaat ttatgattat 2340
gattatttta ctactgagct ttcaggtgaa ttaaaaaata gttttgaaga tattaaagct 2400
tcttctgagc ttaaactttc ttttagatttt ccttatttgc tacaagaagc tgggattgga 2460
attaaatatt ataaaaagtt taaagaagat gctatgaaaa actctggaat ttctgctgtt 2520
caaagtcctt tggagcctca aaaaccatca tcgccttata aaaatttaga aatgtctcct 2580
gctttgtatt ataaaattga gccgagatat ttggattatt ttaaatttag ttttttagtc 2640
gcctatgata ctttgataaa tagagtttct gaactttctt ttaagcttaa tgtttttgat 2700
tttcaatttt tgtttgctat gaaagacgac ttggaatata attatgatcc tttaaaagga 2760
gattttttcca agattggtac tacaacccaaa cttgttccat attctttaga ttctagttac 2820
aaaaaggaat tgtacgtttt aacttttttt gacaataagc tttcttttac cttgggggta 2880
gatgttggtt ggaaaataaaa tttgcagaaa tttacggata atgaacttcg atctgcattg 2940
actttgaagt ttaaatatac agaattttta gaaatttact tttctacttt atctattaat 3000
actaagactt ttaaataattt taaagggtat atggacccaa ttggtctaga acctgttaat 3060
ttctttgttg atttatcaaa atctttcaat ttctttaatt ctcaagacag aaaagattca 3120
ctttttaaaa ttaaaaaaatt ttcacagggc tttaaattca atttttatga ttggaaattt 3180
gttgagaaat ataatttaga accagattta ttaaggggat ctgatgggat ttattctcct 3240
atttgagaaa ataattttac aatttatatt tcttggaact tttttgctcc tataaaagcg 3300
tcatttgaaa acaacaaaga tacaactac gagtttatta ttaatagaaa aacaaaaaaa 3360
taa

```

&lt;210&gt; 13

&lt;211&gt; 195

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 13

```

Met Thr Lys Lys Leu Phe Val Arg Val Leu Ile Phe Leu Ile Ser Asn
  1             5             10             15

```

```

Asn Tyr Ala Phe Ala Lys Asp Thr Ile Lys Asp Leu Phe Phe Ile Gln
          20             25             30

```

```

Asp Ile Leu Ile Lys Lys Glu Lys Tyr Ser Glu Val Leu Asn Asn Ala
          35             40             45

```

```

Ser Leu Glu Gly Ile Ile Glu Ile Glu His Asn Gly Pro Tyr Ile Lys
          50             55             60

```

```

Asp His Asp Ser Glu Val Lys Leu Ile Leu Lys Glu Asn Gly Tyr Arg
          65             70             75             80

```

```

Arg Asn Phe Asn Phe Phe Asn Leu Leu Asn Thr Ser Asn Ile Ile Lys
          85             90             95

```

```

Ser Leu Ser Leu Phe Asp Ser Arg Pro Lys Asn Ile Lys Glu Asn Glu
          100            105            110

```

```

Ile Ile Leu Leu Glu Thr Lys Met Ile Lys Glu Asn Pro Tyr Lys Arg
          115            120            125

```

```

Tyr Lys Asp Asp Asp Asp Phe Glu Leu Lys Leu Ser Val Thr Arg Lys
          130            135            140

```

```

Asn Asn Gln Ile Tyr Leu Ile Leu Asp Phe Asn Phe Leu Phe Asp Gln
          145            150            155            160

```

Arg Lys Thr Phe Pro Ser Ile Tyr Ile Lys Glu Glu Asp Val Ser Thr  
 165 170 175

Ile Ile Asn Ser Phe Met Lys Leu Gln Asp Ser Ser Phe Leu Ser Pro  
 180 185 190

Gln Ala Ser  
 195

<210> 14  
 <211> 174  
 <212> PRT  
 <213> Homo sapiens

<400> 14  
 Lys Asp Thr Ile Lys Asp Leu Phe Phe Ile Gln Asp Ile Leu Ile Lys  
 1 5 10 15

Lys Glu Lys Tyr Ser Glu Val Leu Asn Asn Ala Ser Leu Glu Gly Ile  
 20 25 30

Ile Glu Ile Glu His Asn Gly Pro Tyr Ile Lys Asp His Asp Ser Glu  
 35 40 45

Val Lys Leu Ile Leu Lys Glu Asn Gly Tyr Arg Arg Asn Phe Asn Phe  
 50 55 60

Phe Asn Leu Leu Asn Thr Ser Asn Ile Ile Lys Ser Leu Ser Leu Phe  
 65 70 75 80

Asp Ser Arg Pro Lys Asn Ile Lys Glu Asn Glu Ile Ile Leu Leu Glu  
 85 90 95

Thr Lys Met Ile Lys Glu Asn Pro Tyr Lys Arg Tyr Lys Asp Asp Asp  
 100 105 110

Asp Phe Glu Leu Lys Leu Ser Val Thr Arg Lys Asn Asn Gln Ile Tyr  
 115 120 125

Leu Ile Leu Asp Phe Asn Phe Leu Phe Asp Gln Arg Lys Thr Phe Pro  
 130 135 140

Ser Ile Tyr Ile Lys Glu Glu Asp Val Ser Thr Ile Ile Asn Ser Phe  
 145 150 155 160

Met Lys Leu Gln Asp Ser Ser Phe Leu Ser Pro Gln Ala Ser  
 165 170

<210> 15  
 <211> 588  
 <212> DNA  
 <213> Homo sapiens

<400> 15  
 atgacaaaaa aattgtttgt gaggggtatta atcttttttaa tatccaataa ttatgctttt 60  
 gcaaaaagaca caatcaaaga tttgttcttt atacaagata tactaataaaa aaaagagaaa 120  
 tattccgagg ttctaaataa tgcaagcctt gaaggcatta ttgaaattga acataacgga 180  
 ccatacatta aagatcacga ttcagaagtt aaacttatcc taaaagaaaa cggatataga 240

```

agaattttca acttttttaa tctttttaa actagtaata taatcaaaaag tctaagctta 300
tttgacagca gaccaaaaaa cattaagaa aatgaaatca tattattaga gacaaaaatg 360
attaaagaaa atccctataa acgatacaaa gacgatgatg attttgaatt aaaactaagt 420
gtaactcgaa aaaataatca aattttattt attcttgatt tcaatttcct atttgatcaa 480
agaaaaacgt ttccatcaat ttacatcaaa gaagaagatg tatcaacaat aataaacagc 540
ttcatgaaac tacaagattc aagcttttta tctctcaag cttcttaa 588

```

<210> 16

<211> 525

<212> DNA

<213> Homo sapiens

<400> 16

```

aaagacacaa tcaaagattt gttctttata caagatatac taataaaaaa agagaaatat 60
tccgagggttc taaataatgc aagccttgaa ggcattattg aaattgaaca taacggacca 120
tacattaaag atcacgattc agaagttaaa cttatcctaa aagaaaacgg atatagaaga 180
aatttcaact tttttaatct ttttaatact agtaataata tcaaaagtct aagcttattt 240
gacagcagac caaaaaacat taaagaaaat gaaatcatat tattagagac aaaaatgatt 300
aaagaaaatc cctataaacg atacaaagac gatgatgatt ttgaattaaa actaagtgt 360
actcgaaaaa ataatacaat ttatttaatt cttgatttca atttcctatt tgatcaaaga 420
aaaacgtttc catcaattta catcaaagaa gaagatgtat caacaataat aaacagcttc 480
atgaaactac aagattcaag ctttttatct cctcaagctt ctttaa 525

```

<210> 17

<211> 463

<212> PRT

<213> Homo sapiens

<400> 17

```

Met Asp Lys Ile Ser Ile Leu Tyr Thr Leu Ile Asn Ile Ile Ile Met
  1           5           10           15

```

```

Leu Ile Leu Ile Ser Ile Val Tyr Leu Cys Lys Arg Lys Asn Val Ser
      20           25           30

```

```

Phe Thr Lys Arg Val Phe Ile Ala Leu Ala Ile Gly Ile Val Phe Gly
      35           40           45

```

```

Met Thr Ile Gln Tyr Phe Tyr Gly Thr Asn Ser Glu Ile Thr Asn Glu
      50           55           60

```

```

Thr Ile Asn Trp Ile Ser Ile Leu Gly Asp Gly Tyr Val Arg Leu Leu
      65           70           75           80

```

```

Lys Met Ile Ile Ile Pro Leu Ile Ile Thr Ser Ile Ile Ser Ala Ile
      85           90           95

```

```

Ile Lys Leu Thr Asn Ser Lys Asp Val Gly Lys Met Ser Leu Leu Val
      100           105           110

```

```

Ile Leu Thr Leu Val Phe Thr Ala Gly Ile Ala Ala Ile Ile Gly Ile
      115           120           125

```

```

Phe Thr Ala Leu Ala Leu Gly Leu Thr Ala Glu Gly Leu Gln Ala Gly
      130           135           140

```

```

Thr Ile Glu Ile Leu Gln Ser Glu Lys Leu Gln Lys Gly Leu Glu Ile
      145           150           155           160

```

Leu Asn Gln Thr Thr Ile Thr Lys Lys Ile Thr Asp Leu Ile Pro Gln  
 165 170 175  
 Asn Ile Phe Glu Asp Phe Ala Gly Leu Arg Lys Asn Ser Thr Ile Gly  
 180 185 190  
 Val Val Ile Phe Ser Ala Ile Ile Gly Ile Ala Ala Leu Lys Thr Ser  
 195 200 205  
 Ile Lys Lys Pro Glu Ser Ile Glu Phe Phe Lys Lys Ile Ile Leu Thr  
 210 215 220  
 Leu Gln Asp Ile Ile Leu Gly Val Val Thr Leu Ile Leu Lys Leu Thr  
 225 230 235 240  
 Pro Tyr Ala Ile Leu Ala Leu Met Thr Lys Ile Thr Ala Thr Ser Glu  
 245 250 255  
 Ile Lys Ser Ile Ile Lys Leu Gly Glu Phe Val Ile Ala Ser Tyr Ile  
 260 265 270  
 Ala Ile Gly Leu Thr Phe Leu Met His Met Thr Leu Ile Ala Ile Asn  
 275 280 285  
 Lys Leu Asn Pro Ile Thr Phe Ile Lys Lys Ile Phe Pro Ala Leu Ser  
 290 295 300  
 Phe Ala Phe Ile Ser Arg Ser Ser Ala Ala Thr Ile Pro Ile Asn Ile  
 305 310 315 320  
 Glu Ile Gln Thr Lys Asn Leu Gly Val Ser Glu Gly Ile Ala Asn Leu  
 325 330 335  
 Ser Ser Ser Phe Gly Thr Ser Ile Gly Gln Asn Gly Cys Ala Ala Leu  
 340 345 350  
 His Pro Ala Met Leu Ala Ile Met Ile Ala Pro Thr Gln Gly Ile Asn  
 355 360 365  
 Pro Thr Asp Ile Ser Phe Ile Leu Thr Leu Ile Gly Leu Ile Ile Ile  
 370 375 380  
 Thr Ser Phe Gly Ala Ala Gly Ala Gly Gly Gly Ala Thr Thr Ala Ser  
 385 390 395 400  
 Leu Met Val Leu Ser Ala Met Asn Phe Pro Val Gly Leu Val Gly Leu  
 405 410 415  
 Val Ile Ser Val Glu Pro Ile Ile Asp Met Gly Arg Thr Ala Val Asn  
 420 425 430  
 Val Gly Gly Ser Met Leu Ala Gly Val Ile Ser Ala Lys Gln Leu Lys  
 435 440 445  
 Gln Phe Asn His Asn Ile Tyr Asn Gln Lys Glu Leu Val Asn Lys  
 450 455 460



<210> 18  
 <211> 438  
 <212> PRT  
 <213> Homo sapiens

<400> 18

Cys Lys Arg Lys Asn Val Ser Phe Thr Lys Arg Val Phe Ile Ala Leu  
 1 5 10 15

Ala Ile Gly Ile Val Phe Gly Met Thr Ile Gln Tyr Phe Tyr Gly Thr  
 20 25 30

Asn Ser Glu Ile Thr Asn Glu Thr Ile Asn Trp Ile Ser Ile Leu Gly  
 35 40 45

Asp Gly Tyr Val Arg Leu Leu Lys Met Ile Ile Ile Pro Leu Ile Ile  
 50 55 60

Thr Ser Ile Ile Ser Ala Ile Ile Lys Leu Thr Asn Ser Lys Asp Val  
 65 70 75 80

Gly Lys Met Ser Leu Leu Val Ile Leu Thr Leu Val Phe Thr Ala Gly  
 85 90 95

Ile Ala Ala Ile Ile Gly Ile Phe Thr Ala Leu Ala Leu Gly Leu Thr  
 100 105 110

Ala Glu Gly Leu Gln Ala Gly Thr Ile Glu Ile Leu Gln Ser Glu Lys  
 115 120 125

Leu Gln Lys Gly Leu Glu Ile Leu Asn Gln Thr Thr Ile Thr Lys Lys  
 130 135 140

Ile Thr Asp Leu Ile Pro Gln Asn Ile Phe Glu Asp Phe Ala Gly Leu  
 145 150 155 160

Arg Lys Asn Ser Thr Ile Gly Val Val Ile Phe Ser Ala Ile Ile Gly  
 165 170 175

Ile Ala Ala Leu Lys Thr Ser Ile Lys Lys Pro Glu Ser Ile Glu Phe  
 180 185 190

Phe Lys Lys Ile Ile Leu Thr Leu Gln Asp Ile Ile Leu Gly Val Val  
 195 200 205

Thr Leu Ile Leu Lys Leu Thr Pro Tyr Ala Ile Leu Ala Leu Met Thr  
 210 215 220

Lys Ile Thr Ala Thr Ser Glu Ile Lys Ser Ile Ile Lys Leu Gly Glu  
 225 230 235 240

Phe Val Ile Ala Ser Tyr Ile Ala Ile Gly Leu Thr Phe Leu Met His  
 245 250 255

Met Thr Leu Ile Ala Ile Asn Lys Leu Asn Pro Ile Thr Phe Ile Lys  
 260 265 270

Lys Ile Phe Pro Ala Leu Ser Phe Ala Phe Ile Ser Arg Ser Ser Ala

275	280	285
Ala Thr Ile Pro Ile Asn Ile Glu Ile Gln Thr Lys Asn Leu Gly Val		
290	295	300
Ser Glu Gly Ile Ala Asn Leu Ser Ser Ser Phe Gly Thr Ser Ile Gly		
305	310	315 320
Gln Asn Gly Cys Ala Ala Leu His Pro Ala Met Leu Ala Ile Met Ile		
	325	330 335
Ala Pro Thr Gln Gly Ile Asn Pro Thr Asp Ile Ser Phe Ile Leu Thr		
	340	345 350
Leu Ile Gly Leu Ile Ile Ile Thr Ser Phe Gly Ala Ala Gly Ala Gly		
	355	360 365
Gly Gly Ala Thr Thr Ala Ser Leu Met Val Leu Ser Ala Met Asn Phe		
	370	375 380
Pro Val Gly Leu Val Gly Leu Val Ile Ser Val Glu Pro Ile Ile Asp		
	385	390 395 400
Met Gly Arg Thr Ala Val Asn Val Gly Gly Ser Met Leu Ala Gly Val		
	405	410 415
Ile Ser Ala Lys Gln Leu Lys Gln Phe Asn His Asn Ile Tyr Asn Gln		
	420	425 430
Lys Glu Leu Val Asn Lys		
	435	

<210> 19  
 <211> 1404  
 <212> DNA  
 <213> Homo sapiens

<400> 19

taagaggtaa	taatggataa	aataagtata	ttatatacat	taatcaatat	tataataatg	60
cttattctaa	taagcatagt	ttatctttgt	aaaagaaaaa	atgtttcgtt	tacaaaaaga	120
gtgtttatag	cgttagcaat	cggaatagta	tttggaatga	ccattcaata	tttttatgga	180
acaaattcag	aaataacaaa	cgaaactata	aattggataa	gtattttggg	cgatggatac	240
gtaaggctcc	ttaaaatgat	tataatcccc	ttaataataa	catcaataat	ctctgcaata	300
ataaaaactaa	ccaatagtaa	agatgttggt	aaaatgagcc	tacttgtaat	attaacacta	360
gtatttacag	caggtattgc	tgccataatt	ggcattttca	ctgctttagc	attgggatta	420
acagccgaag	gactacaagc	gggaaccatc	gaaattttac	aaagtgaaaa	attgcaaaaa	480
ggccttgaaa	tattaaatca	aacaacaatc	acaaaaaaaa	tcacagatct	tattccacaa	540
aatatatttg	aagattttgc	agggttaga	aaaaactcaa	ccatcggggt	cgatgatatt	600
tcagctatca	taggaatagc	cgcccttaaa	acatctatca	aaaagccaga	atcaatagaa	660
ttttttaaaa	aaataatatt	aacactccaa	gacataatat	taggtgtagt	aactttgatt	720
ttaaaactaa	cgccttatgc	tatattagct	ttaatgacaa	aaattacagc	aaccagcgaa	780
atcaaaagca	taataaagct	tggaataatt	gtaattgctt	cctacattgc	cataggtctt	840
acatttctta	tgcatatgac	attaattgca	ataaataaat	taaacccaat	tacttttata	900
aaaaaaatat	tcccagcact	atcatttgca	ttcatatcta	ggtcagtgct	tgcaaccata	960
cccattaata	tagaaattca	aactaaaaat	ctgggagtaa	gcgaaggaat	agcaaaattta	1020
tcaagctcct	ttggaacatc	aattgggcaa	aatgggtgtg	cagcactaca	ccccgctatg	1080
cttgaataaa	tgatagcacc	aactcaggga	ataaacccca	cagatatttc	atttatactc	1140
acacttattg	gattaataat	aataaacttca	tttggagctg	ctggcgctgg	tggaggcgca	1200

```

acaacagcct cactaatggt gctctcagca atgaactttc cagtgggatt ggtaggactt 1260
gtaatatctg ttgagcctat aattgacatg ggaagaacag ctgttaaatgt aggcgggctca 1320
atgcttgacg gcgttatatc tgctaaacag ctcaaacaat tcaaccataa tatatacaac 1380
caaaaagagc ttgtaaacaa ataa 1404

```

```

<210> 20
<211> 1317
<212> DNA
<213> Homo sapiens

```

```

<400> 20
tgtaaaagaa aaaatgtttc ttttacaaaa agagtgttta tagcgtagc aatcgggaata 60
gtatttgga tgaccattca atatttttat ggaacaaatt cagaaataac aaacgaaact 120
ataaattgga taagtatttt gggcgatgga tacgtaaggc tccttaaaat gattataatc 180
cccttaataa taacatcaat aatctctgca ataataaaac taaccaatag taaagatgtt 240
gggaaaatga gcctacttgt aatattaaca ctagtattta cagcagggtat tgctgccata 300
attggcattt tcactgcttt agcattggga ttaacagccg aaggactaca agcgggaacc 360
atcgaaattt tacaaagtga aaaattgcaa aaaggccttg aaatattaaa tcaaacaaca 420
atcacaaaaa aaatcacaga tcttattcca caaaatata tgaagattt tgcagggtt 480
agaaaaaact caaccatcgg ggtcgtgata ttttcagcta tcataggaat agccgccctt 540
aaaacatcta tcaaaaagcc agaatcaata gaatttttta aaaaaataat attaacactc 600
caagacataa tattaggtgt agtaactttg attttaaaac taacgcctta tgctatatta 660
gctttaatga caaaaattac agcaaccagc gaaatcaaaa gcataataaa gcttgagaa 720
tttgtaattg ctccctacat tgccataggt cttacatttc ttatgcatat gacattaatt 780
gcaataaata aattaaacc aattactttt ataaaaaaa tattcccagc actatcattt 840
gcattcatat ctaggctcag tgctgcaacc ataccatta atatagaaat tcaactaaa 900
aatctgggag taagcgaagg aatagcaaat ttatcaagct cctttggaac atcaattggg 960
caaaatgggt gtgcagcact acaccccgct atgcttgcaa taatgatagc accaactcag 1020
ggaataaacc ccacagatat ttcatttata ctcacactta ttggattaat aataataact 1080
tcatttgagg ctgctggcgc tgggtggaggc gcaacaacag cctcactaat ggtgctctca 1140
gcaatgaact ttccagtggg attggtagga cttgtaatat ctgttgagcc tataattgac 1200
atgggaagaa cagctgttaa tgtaggcggc tcaatgcttg caggcggtat atctgctaaa 1260
cagctcaaac aattcaacca taatatatac aacccaaaag agcttgtaaa caataaa 1317

```

```

<210> 21
<211> 443
<212> PRT
<213> Homo sapiens

```

```

<400> 21
Met Lys Ile Ile Ile Ile Gly Gly Thr Ser Ala Gly Thr Ser Ala Ala
  1           5           10           15

Ala Lys Ala Asn Arg Leu Asn Lys Lys Leu Asp Ile Thr Ile Tyr Glu
      20           25           30

Lys Thr Asn Ile Val Ser Phe Gly Thr Cys Gly Leu Pro Tyr Phe Val
      35           40           45

Gly Gly Phe Phe Asp Asn Pro Asn Thr Met Ile Ser Arg Thr Gln Glu
      50           55           60

Glu Phe Glu Lys Thr Gly Ile Ser Val Lys Thr Asn His Glu Val Ile
      65           70           75           80

Lys Val Asp Ala Lys Asn Asn Thr Ile Val Ile Lys Asn Gln Lys Thr
      85           90           95

```

Gly Thr Ile Phe Asn Asn Thr Tyr Asp Gln Leu Met Ile Ala Thr Gly  
 100 105 110  
 Ala Lys Pro Ile Ile Pro Pro Ile Asn Asn Ile Asn Leu Glu Asn Phe  
 115 120 125  
 His Thr Leu Lys Asn Leu Glu Asp Gly Gln Lys Ile Lys Lys Leu Met  
 130 135 140  
 Asp Arg Glu Glu Ile Lys Asn Ile Val Ile Ile Gly Gly Gly Tyr Ile  
 145 150 155 160  
 Gly Ile Glu Met Val Glu Ala Ala Lys Asn Lys Arg Lys Asn Val Arg  
 165 170 175  
 Leu Ile Gln Leu Asp Lys His Ile Leu Ile Asp Ser Phe Asp Glu Glu  
 180 185 190  
 Ile Val Thr Ile Met Glu Glu Glu Leu Thr Lys Lys Gly Val Asn Leu  
 195 200 205  
 His Thr Asn Glu Phe Val Lys Ser Leu Ile Gly Glu Lys Lys Ala Glu  
 210 215 220  
 Gly Val Val Thr Asn Lys Asn Thr Tyr Gln Ala Asp Ala Val Ile Leu  
 225 230 235 240  
 Ala Thr Gly Ile Lys Pro Asp Thr Glu Phe Leu Glu Asn Gln Leu Lys  
 245 250 255  
 Thr Thr Lys Asn Gly Ala Ile Ile Val Asn Glu Tyr Gly Glu Thr Ser  
 260 265 270  
 Ile Lys Asn Ile Phe Ser Ala Gly Asp Cys Ala Thr Ile Tyr Asn Ile  
 275 280 285  
 Val Ser Lys Lys Asn Glu Tyr Ile Pro Leu Ala Thr Thr Ala Asn Lys  
 290 295 300  
 Leu Gly Arg Ile Val Gly Glu Asn Leu Ala Gly Asn His Thr Ala Phe  
 305 310 315 320  
 Lys Gly Thr Leu Gly Ser Ala Ser Ile Lys Ile Leu Ser Leu Glu Ala  
 325 330 335  
 Ala Arg Thr Gly Leu Thr Glu Lys Asp Ala Lys Lys Leu Gln Ile Lys  
 340 345 350  
 Tyr Lys Thr Ile Phe Val Lys Asp Lys Asn His Thr Asn Tyr Tyr Pro  
 355 360 365  
 Gly Gln Glu Asp Leu Tyr Ile Lys Leu Ile Tyr Glu Glu Asn Thr Lys  
 370 375 380  
 Ile Ile Leu Gly Ala Gln Ala Ile Gly Lys Asn Gly Ala Val Ile Arg  
 385 390 395 400  
 Ile His Ala Leu Ser Ile Ala Ile Tyr Ser Lys Leu Thr Thr Lys Glu

405                      410                      415  
 Leu Gly Met Met Asp Phe Ser Tyr Ser Pro Pro Phe Ser Arg Thr Trp  
                     420                      425                      430  
 Asp Ile Leu Asn Ile Ala Gly Asn Ala Ala Lys  
                     435                      440  
 <210> 22  
 <211> 429  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 22  
 Ala Ala Ala Lys Ala Asn Arg Leu Asn Lys Lys Leu Asp Ile Thr Ile  
   1                    5                    10                    15  
 Tyr Glu Lys Thr Asn Ile Val Ser Phe Gly Thr Cys Gly Leu Pro Tyr  
                     20                    25                    30  
 Phe Val Gly Gly Phe Phe Asp Asn Pro Asn Thr Met Ile Ser Arg Thr  
                     35                    40                    45  
 Gln Glu Glu Phe Glu Lys Thr Gly Ile Ser Val Lys Thr Asn His Glu  
                     50                    55                    60  
 Val Ile Lys Val Asp Ala Lys Asn Asn Thr Ile Val Ile Lys Asn Gln  
   65                    70                    75                    80  
 Lys Thr Gly Thr Ile Phe Asn Asn Thr Tyr Asp Gln Leu Met Ile Ala  
                     85                    90                    95  
 Thr Gly Ala Lys Pro Ile Ile Pro Pro Ile Asn Asn Ile Asn Leu Glu  
                     100                    105                    110  
 Asn Phe His Thr Leu Lys Asn Leu Glu Asp Gly Gln Lys Ile Lys Lys  
                     115                    120                    125  
 Leu Met Asp Arg Glu Glu Ile Lys Asn Ile Val Ile Ile Gly Gly Gly  
   130                    135                    140  
 Tyr Ile Gly Ile Glu Met Val Glu Ala Ala Lys Asn Lys Arg Lys Asn  
   145                    150                    155                    160  
 Val Arg Leu Ile Gln Leu Asp Lys His Ile Leu Ile Asp Ser Phe Asp  
                     165                    170                    175  
 Glu Glu Ile Val Thr Ile Met Glu Glu Glu Leu Thr Lys Lys Gly Val  
                     180                    185                    190  
 Asn Leu His Thr Asn Glu Phe Val Lys Ser Leu Ile Gly Glu Lys Lys  
                     195                    200                    205  
 Ala Glu Gly Val Val Thr Asn Lys Asn Thr Tyr Gln Ala Asp Ala Val  
   210                    215                    220  
 Ile Leu Ala Thr Gly Ile Lys Pro Asp Thr Glu Phe Leu Glu Asn Gln  
   225                    230                    235                    240

Leu Lys Thr Thr Lys Asn Gly Ala Ile Ile Val Asn Glu Tyr Gly Glu  
245 250 255

Thr Ser Ile Lys Asn Ile Phe Ser Ala Gly Asp Cys Ala Thr Ile Tyr  
260 265 270

Asn Ile Val Ser Lys Lys Asn Glu Tyr Ile Pro Leu Ala Thr Thr Ala  
275 280 285

Asn Lys Leu Gly Arg Ile Val Gly Glu Asn Leu Ala Gly Asn His Thr  
290 295 300

Ala Phe Lys Gly Thr Leu Gly Ser Ala Ser Ile Lys Ile Leu Ser Leu  
305 310 315 320

Glu Ala Ala Arg Thr Gly Leu Thr Glu Lys Asp Ala Lys Lys Leu Gln  
325 330 335

Ile Lys Tyr Lys Thr Ile Phe Val Lys Asp Lys Asn His Thr Asn Tyr  
340 345 350

Tyr Pro Gly Gln Glu Asp Leu Tyr Ile Lys Leu Ile Tyr Glu Glu Asn  
355 360 365

Thr Lys Ile Ile Leu Gly Ala Gln Ala Ile Gly Lys Asn Gly Ala Val  
370 375 380

Ile Arg Ile His Ala Leu Ser Ile Ala Ile Tyr Ser Lys Leu Thr Thr  
385 390 395 400

Lys Glu Leu Gly Met Met Asp Phe Ser Tyr Ser Pro Pro Phe Ser Arg  
405 410 415

Thr Trp Asp Ile Leu Asn Ile Ala Gly Asn Ala Ala Lys  
420 425

<210> 23

<211> 1332

<212> DNA

<213> Homo sapiens

<400> 23

```

atgaaaataa taattattgg gggcacatca gcaggaacta gtgccgcagc taaagcaaac 60
cgcttaaaca aaaagctaga cactactatc tatgaaaaaa caaatattgt atcttttggg 120
acctgtggcc tgccttactt tgtgggggga ttctttgaca accccaatac aatgatctca 180
agaacacaag aagaattcga aaaaactgga atctctgtta aaactaacca cgaagttatc 240
aaagtagatg caaaaaacaa tacaattgta ataaaaaatc aaaaaacagg aaccattttt 300
aacaatactt acgatcaact tatgatagca actggtgcaa aacctattat tccaccaatc 360
aataatatca atctagaaaa ttttcatact ctgaaaaaatt tagaagacgg tcaaaaaata 420
aaaaaattaa tggatagaga agagattaaa aatatagtga taattggtgg tggatacatt 480
ggaattgaaa tggtagaagc agcaaaaaat aaaagaaaaa atgtaagatt aattcaacta 540
gataagcaca tactcataga ttcttttgac gaagaaatag tcacaataat ggaagaagaa 600
ctaacaaaaa aggggggttaa tcttcataca aatgagtttg taaaaagttt aataggagaa 660
aaaaaggcag aaggagtagt aacaaaacaa aatacttatc aagctgacgc tggtatactt 720
gctaccggaa taaaacctga cactgaattt ttagaaaacc agcttaaac tactaaaaat 780
ggagcaataa ttgtaaatga gtatggcgaa actagcataa aaaatatttt ttctgcagga 840
gattgtgcaa ctatttataa tatagttaagt aaaaaaaatg aatacatacc cttggcaaca 900

```

```

acagccaaca aacttggaag aatagttggt gaaaatttag ctgggaatca tacagcattt 960
aaaggcacat tgggctcagc ttcaattaaa atactatctt tagaagctgc aagaacagga 1020
cttacagaaa aagatgcaaa aaagctccaa ataaaaatata aaacgatttt tgtaaaggac 1080
aaaaatcata caaattatta tccaggccaa gaagatcttt atattaaatt aatttatgag 1140
gaaaatacca aaataatcct tggggcacia gcaataggaa aaaatggagc cgtaataaga 1200
attcatgctt tatcaattgc aatctattca aaacttacia caaaagagct agggatgatg 1260
gattttctcat attccccacc cttctcaaga acttgggata tattaaatat tgctggcaat 1320
gctgccaaat ag 1332

```

&lt;210&gt; 24

&lt;211&gt; 1290

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 24

```

gccgcagcta aagcaaaccg cttaaacaac aagctagaca ttactatcta tgaaaaaaca 60
aatattgtat cttttggaac ctgtggcctg cttacttttg tgggggggatt ctttgacaac 120
cccaatacaa tgatctcaag aacacaagaa gaattcgaaa aaactggaat ctctgttaaa 180
actaaccacg aagttatcaa agtagatgca aaaaacaata caattgtaat aaaaaatcaa 240
aaaacaggaa ccatttttaa caatacttac gatcaactta tgatagcaac tgggtgcaaaa 300
cctattattc caccaatcaa taatatcaat ctgaaaaatt ttcatactct gaaaaattha 360
gaagacggtc aaaaaataaa aaaattaatg gatagagaag agattaaaaa tatagtgata 420
attggtgggtg gatacattgg aattgaaatg gtagaagcag caaaaaataa aagaaaaaat 480
gtaagattaa ttcaactaga taagcacata ctcataagatt cctttgacga agaaatagtc 540
acaataatgg aagaagaact aacaaaaaag ggggttaatc ttcatacaaa tgagtttgta 600
aaaagtttaa taggagaaaa aaaggcagaa ggagtagtaa caaacaaaaa tacttatcaa 660
gctgacgctg ttatacttgc taccggaata aaacctgaca ctgaattttt agaaaaccag 720
cttaaaaacta ctaaaaatgg agcaataatt gttaaagagt atggcgaaac tagcataaaa 780
aatatttttt ctgcaggaga ttgtgcaact atttataata tagtaagtaa aaaaaatgaa 840
tacataccct tggcaacaac agccaacaaa cttggaagaa tagttggtga aaatttagct 900
gggaatcata cagcatttaa aggcacattg ggctcagctt caattaaaaat actatcttta 960
gaagctgcaa gaacaggact tacagaaaaa gatgcaaaaa agctccaaat aaaatataaa 1020
acgatttttg taaaggacaa aaatcataca aattattatc caggccaaga agatctttat 1080
attaaattaa tttatgagga aaataccaaa ataatccttg gggcacaagc aataggaaaa 1140
aatggagccg taataagaat tcatgcttta tcaattgcaa tctattcaaa acttacaaca 1200
aaagagctag ggatgatgga tttctcatat tccccaccct tctcaagaac ttgggatata 1260
ttaaatattg ctggcaatgc tgccaaatag 1290

```

&lt;210&gt; 25

&lt;211&gt; 440

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 25

```

Met Leu Lys Phe Glu Phe Ser Asp Arg Phe Leu Leu Phe Ser Tyr Phe
  1             5             10             15

```

```

Val Leu Ile Met Phe Ile Gly Ser Leu Leu Leu Met Leu Pro Ile Ser
          20             25             30

```

```

Trp Glu Gly Asp Gly Lys Leu Ala Tyr Ile Asp Ala Leu Phe Thr Ala
      35             40             45

```

```

Val Ser Ala Val Ser Ile Thr Gly Leu Thr Thr Val Lys Met Glu Gly
      50             55             60

```

```

Phe Ser Thr Phe Gly Phe Ile Leu Ile Met Leu Leu Ile Gln Leu Gly
      65             70             75             80

```

Gly	Leu	Gly	Phe	Ile	Ser	Ile	Thr	Thr	Phe	Tyr	Leu	Leu	Ile	Pro	Lys
				85					90					95	
Lys	Lys	Met	Asn	Leu	Thr	Asp	Ala	Arg	Ile	Ile	Lys	Gln	Tyr	Ser	Leu
			100					105					110		
Ser	Asn	Ile	Glu	Tyr	Asn	Pro	Ile	Arg	Ile	Leu	Lys	Ser	Ile	Leu	Phe
		115					120					125			
Ile	Thr	Phe	Ser	Ile	Glu	Met	Ile	Gly	Leu	Ile	Leu	Ile	Leu	Ile	Cys
	130					135					140				
Phe	Lys	Leu	Arg	Gly	Val	Asn	Ile	Ser	Phe	Leu	Glu	Ala	Leu	Phe	Thr
145					150					155					160
Thr	Ile	Ser	Ala	Phe	Cys	Asn	Ala	Gly	Phe	Ser	Met	His	Ser	Glu	Ser
				165					170					175	
Ile	Tyr	Ala	Trp	Arg	Asp	Val	Pro	Glu	Ala	Ile	Val	Val	Val	Ser	Ile
			180					185					190		
Leu	Ile	Ile	Cys	Gly	Gly	Leu	Gly	Phe	Met	Val	Tyr	Arg	Asp	Val	Asn
		195					200					205			
Asn	Thr	Ile	Lys	Asn	Lys	Lys	Lys	Leu	Ser	Leu	His	Ala	Lys	Ile	Val
	210					215					220				
Phe	Ser	Leu	Ser	Phe	Phe	Leu	Ile	Ile	Ile	Gly	Ala	Ile	Leu	Phe	Phe
225					230					235					240
Phe	Thr	Glu	Met	His	Lys	Leu	Lys	Ala	Gly	Tyr	Ser	Met	Ser	Thr	Leu
				245					250					255	
Ile	Phe	Asn	Ser	Ile	Phe	Tyr	Ser	Ile	Ser	Thr	Arg	Thr	Ala	Gly	Phe
			260					265					270		
Asn	Tyr	Leu	Asp	Asn	Ser	Leu	Ile	Ser	Gly	Arg	Thr	Gln	Ile	Ile	Ser
		275					280					285			
Leu	Pro	Phe	Met	Phe	Ile	Gly	Gly	Ala	Pro	Gly	Ser	Thr	Ala	Gly	Gly
	290					295					300				
Ile	Lys	Ile	Thr	Thr	Phe	Phe	Leu	Ile	Val	Leu	Ala	Val	Val	Lys	Asn
305					310					315					320
Gln	Asn	Gly	Asn	Gly	Tyr	Ile	Ile	Gly	Ser	Tyr	Lys	Val	Ser	Ile	Asp
				325					330					335	
Ser	Ile	Arg	Phe	Ala	Leu	Leu	Phe	Phe	Ala	Arg	Ala	Ile	Phe	Ile	Leu
			340					345					350		
Ser	Phe	Ser	Phe	Phe	Met	Leu	Leu	Phe	Phe	Glu	Gly	Gly	Ser	Gly	Asn
		355					360					365			
Trp	Lys	Val	Ile	Asp	Leu	Gly	Tyr	Glu	Val	Phe	Ser	Ala	Phe	Gly	Thr
	370					375					380				



Val Gly Leu Ser Val Gly Val Thr Gln Asp Leu Ser Phe Trp Gly Lys  
385 390 395 400

Val Ile Ile Ile Phe Thr Met Phe Ala Gly Arg Ile Gly Leu Phe Ser  
405 410 415

Met Ala Val Phe Val Ser Arg Lys Ser Arg Phe Glu Glu Phe Thr Arg  
420 425 430

Pro Arg Gln Asp Ile Leu Val Gly  
435 440

<210> 26

<211> 408

<212> PRT

<213> Homo sapiens

<400> 26

Trp Glu Gly Asp Gly Lys Leu Ala Tyr Ile Asp Ala Leu Phe Thr Ala  
1 5 10 15

Val Ser Ala Val Ser Ile Thr Gly Leu Thr Thr Val Lys Met Glu Gly  
20 25 30

Phe Ser Thr Phe Gly Phe Ile Leu Ile Met Leu Leu Ile Gln Leu Gly  
35 40 45

Gly Leu Gly Phe Ile Ser Ile Thr Thr Phe Tyr Leu Leu Ile Pro Lys  
50 55 60

Lys Lys Met Asn Leu Thr Asp Ala Arg Ile Ile Lys Gln Tyr Ser Leu  
65 70 75 80

Ser Asn Ile Glu Tyr Asn Pro Ile Arg Ile Leu Lys Ser Ile Leu Phe  
85 90 95

Ile Thr Phe Ser Ile Glu Met Ile Gly Leu Ile Leu Ile Leu Ile Cys  
100 105 110

Phe Lys Leu Arg Gly Val Asn Ile Ser Phe Leu Glu Ala Leu Phe Thr  
115 120 125

Thr Ile Ser Ala Phe Cys Asn Ala Gly Phe Ser Met His Ser Glu Ser  
130 135 140

Ile Tyr Ala Trp Arg Asp Val Pro Glu Ala Ile Val Val Val Ser Ile  
145 150 155 160

Leu Ile Ile Cys Gly Gly Leu Gly Phe Met Val Tyr Arg Asp Val Asn  
165 170 175

Asn Thr Ile Lys Asn Lys Lys Lys Leu Ser Leu His Ala Lys Ile Val  
180 185 190

Phe Ser Leu Ser Phe Phe Leu Ile Ile Ile Gly Ala Ile Leu Phe Phe  
195 200 205

Phe Thr Glu Met His Lys Leu Lys Ala Gly Tyr Ser Met Ser Thr Leu

210                      215                      220  
 Ile Phe Asn Ser Ile Phe Tyr Ser Ile Ser Thr Arg Thr Ala Gly Phe  
 225                      230                      235                      240  
 Asn Tyr Leu Asp Asn Ser Leu Ile Ser Gly Arg Thr Gln Ile Ile Ser  
                     245                      250                      255  
 Leu Pro Phe Met Phe Ile Gly Gly Ala Pro Gly Ser Thr Ala Gly Gly  
                     260                      265                      270  
 Ile Lys Ile Thr Thr Phe Phe Leu Ile Val Leu Ala Val Val Lys Asn  
                     275                      280                      285  
 Gln Asn Gly Asn Gly Tyr Ile Ile Gly Ser Tyr Lys Val Ser Ile Asp  
                     290                      295                      300  
 Ser Ile Arg Phe Ala Leu Leu Phe Phe Ala Arg Ala Ile Phe Ile Leu  
 305                      310                      315                      320  
 Ser Phe Ser Phe Phe Met Leu Leu Phe Phe Glu Gly Gly Ser Gly Asn  
                     325                      330                      335  
 Trp Lys Val Ile Asp Leu Gly Tyr Glu Val Phe Ser Ala Phe Gly Thr  
                     340                      345                      350  
 Val Gly Leu Ser Val Gly Val Thr Gln Asp Leu Ser Phe Trp Gly Lys  
                     355                      360                      365  
 Val Ile Ile Ile Phe Thr Met Phe Ala Gly Arg Ile Gly Leu Phe Ser  
                     370                      375                      380  
 Met Ala Val Phe Val Ser Arg Lys Ser Arg Phe Glu Glu Phe Thr Arg  
 385                      390                      395                      400  
 Pro Arg Gln Asp Ile Leu Val Gly  
                     405

&lt;210&gt; 27

&lt;211&gt; 1323

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 27

```

atgttgaaat ttgaatttag cgacagggtt ttacttttta gttattttgt ttttaattatg 60
tttataggct ctcttttggt gatgttgcc ttttctggg aaggtgatgg caaatttagca 120
tacattgatg ctctttttac tgctgtttct gctgtaagta ttacgggcct tacaacgggt 180
aaaatggaag gcttttctac ttttggattt attttgataa tgttgcta at ccagcttggg 240
ggacttggtt ttataagtat tactactttt tatttgctta tacctaaaaa gaaaatgaat 300
ttaacagatg caagaataat aaagcagtat tccctttcaa atatagaata taatcctatt 360
agaattttta aaagcatatt gtttataact ttttcaattg aaatgatagg ttttaattatta 420
atacttattt gttttaaact taggggagtg aatatttcat tcttagaggc tttgtttacg 480
acaatttctg ctttttgcaa tgcagggttt tccatgcatt ctgagagtat ttatgcatgg 540
cgagatgttc ctgaagctat agttgtgggc tctattttta taatttgtgg tgggcttggg 600
tttatggtct atagagatgt aaataacact attaaaaaca aaaaaaaact atcgcttcat 660
gccaaagatg ttttttcttt aagcttcttt ttaattataa ttggtgcaat tttatttttt 720
tttacagaga tgcataaatt aaaagctggg tattcaatga gcactttaat atttaattca 780
attttttatt cgattagtac cagaacagct gggttttaatt atcttgataa ttctttaata 840

```

```

agcgggaagaa ctcaaataat ttctctacca ttcattgttta ttgggtggtgc acccgggatca 900
actgcaggag ggattaagat tacaacattt tttttaattg tattggctgt tgtaaaaaat 960
caaaacggca atggatataat tattggttct tacaagggtt caatagatag tataagattt 1020
gcacttttat tttttgcaag agctattttt attttaagtt tttctttttt catgcttctt 1080
ttttttgagg gaggatctgg caattggaag gttattgatt taggttatga agtattttct 1140
gcttttggaa cgggttggct ttcagttgga gtaactcagg atttgtcatt ttgggggaaa 1200
gtcattataa tttttactat gtttcagga cgaatagggc ttttttcaat ggctgttttt 1260
gtttcaagaa agtcgcggtt tgaagaattt acaaggccaa ggcaagatat tttggttggg 1320
tga

```

&lt;210&gt; 28

&lt;211&gt; 1227

&lt;212&gt; DNA

&lt;213&gt; Homo. sapiens

&lt;400&gt; 28

```

tgggaagggtg atggcaaat agcatacatt gatgctcttt ttactgctgt ttctgctgta 60
agtattacgg gccttacaac ggtaaaaatg gaaggctttt ctacttttgg atttattttg 120
ataatgttgc taatccagct tgggggactt ggatttataa gtattactac tttttatttg 180
cttataccta aaaagaaaat gaattttaaca gatgcaagaa taataaagca gtattccctt 240
tcaaataatag aatataatcc tattagaatt taaaaaagca tattgtttat aactttttca 300
attgaaatga taggtttaat attaataactt atttgtttta aacttagggg agtgaatatt 360
tcattcttag aggccttgtt tacgacaatt tctgcttttt gcaatgcagg tttttccatg 420
cattctgaga gtatttatgc atggcgagat gttcctgaag ctatagttgt ggtctctatt 480
ttaataattt gtgggtgggct tgggttttat gtctatagag atgtaaaataa cactattaaa 540
aacaacaaaa aactatcgct tcatgccaaag atagtttttt cttaaagctt ctttttaatt 600
ataattggtg caattttatt tttttttaca gagatgcata aattaaaagc tggttattca 660
atgagcactt taatatttaa ttcaattttt tattcgatta gtaccagaac agctggtttt 720
aattatcttg ataattcttt aataagcgga agaactcaaa taatttctct accattcatg 780
tttattggtg gtgcacccgg atcaactgca ggagggatta agattacaac atttttttta 840
attgtattgg ctgttggtta aaatcaaaac ggcaatggat atattatttg ttcttacaag 900
gtttcaatag atagtataag atttgcactt ttattttttg caagagctat ttttatttta 960
agtttttctt ttttcatgct tctttttttt gagggaggat ctggcaattg gaaggttatt 1020
gatttaggtt atgaagtatt ttctgctttt ggaacgggtg gtctttcagt tggagtaact 1080
caggatttgt cattttgggg gaaagtcatt ataattttta ctatgtttgc aggacgaata 1140
gggctttttt caatggctgt ttttgtttca agaaagtcgc gttttgaaga atttacaagg 1200
ccaaggcaag atattttggt tggttga

```

&lt;210&gt; 29

&lt;211&gt; 481

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 29

```

Met Lys Ile Asn Lys Thr Phe Ile Leu Leu Phe Leu Phe Thr Lys Phe
1           5           10           15

```

```

Ser Phe Val Gln Ala Gln Ala Asn Gln Ile Leu Thr Glu Ile Ser Pro
20           25           30

```

```

Leu Ser Ile Leu Ser Lys Asn Gly Lys Gly Ser Val Tyr Leu Lys Val
35           40           45

```

```

Ser Lys Ser Ser Asp Tyr Ile Leu Thr Leu Asp Lys Ser Ser Asn Ser
50           55           60

```

```

Asp Phe Val Phe Lys Ile Tyr Asp Ile Ser Asn Lys Lys Tyr Ile Thr
65           70           75           80

```

Asp Lys Val Lys Arg Arg Asp Phe Lys Ile Arg Leu Asp Lys Asn Ser  
 85 90 95  
 Leu Tyr Ala Ile Ile Tyr Val Gly Thr Lys Asn Glu Asn Ile Lys Phe  
 100 105 110  
 Ser Leu Thr Asp Leu Asp Phe Ser Ile Leu Ser Ser Asp Ser Leu Lys  
 115 120 125  
 Ala Lys Thr Ser Lys Ile Glu Lys Glu Asp Leu Phe Phe Thr Leu Lys  
 130 135 140  
 Asp Leu Pro Val Leu Asn Leu Thr Ala Lys Leu Lys Lys Tyr Val Leu  
 145 150 155 160  
 Arg Ile Tyr Lys Ser Asn Ile Tyr Ile Ala Tyr Gln Leu Glu Asn Ser  
 165 170 175  
 Asp Asp Ile Lys Val Ala Glu Phe Ile Glu Asp Val Gly Trp Phe Asn  
 180 185 190  
 Leu Asp Ser Ser Val Asn Arg Asn Ile Thr Asn Ile Val Asn Phe Asp  
 195 200 205  
 Phe Ser Ile Asn Ser Lys Gly Asn Leu Tyr Ile Ala Phe Val Thr Lys  
 210 215 220  
 Ser Gly Ala Asp Phe Ala Ser Glu Leu Ile Val Lys Lys Phe Asn Ser  
 225 230 235 240  
 Arg Lys Trp Ile Asp Ile Ser Pro Gly His Ile Glu Asn Phe Gly Ser  
 245 250 255  
 Leu Leu Asn Ile Ser Ile Asp Leu Lys Asp Arg Leu Tyr Leu Ala Tyr  
 260 265 270  
 Leu Arg Glu Ile Arg Gly Glu Tyr Lys Ile Asn Leu Ile Ser Asn Met  
 275 280 285  
 Gly Tyr Gly Ser Ile Trp Thr Asp Val Ile His Ala Tyr Leu Ser Lys  
 290 295 300  
 Gly Asp Ser Asn Val Asn Ser Ser Asn Ile Gly Leu Ile Ser Glu Pro  
 305 310 315 320  
 Phe Leu Gly Ile Phe Tyr Asn Tyr Lys Ser Asn Asn Glu Ile Lys Ser  
 325 330 335  
 Glu Phe Ile Val Asn Asn Glu Asn Ala Trp Val Asn Ala Asn Ile Pro  
 340 345 350  
 Ser Val Tyr Met Ala Asn Phe Ile Lys Gly Phe Phe Asp Ser Asn Phe  
 355 360 365  
 Asn Gln Ile Ile Met Ser Phe Val Ser Glu Asn Arg Pro Ile Val Asn  
 370 375 380

Ile Cys Pro Leu Lys Ser Ser Arg Trp Ile Asn Ile Ser Pro Asn Val  
385 390 395 400

Glu Met Glu Gly Leu Ser Ala Asp Ile Gly Leu Tyr Lys Asn Asn Leu  
405 410 415

Phe Leu Ala Phe Glu Asp Asn Asn Asn Val Arg Leu Ile Tyr Phe Lys  
420 425 430

Asn Lys Asn Trp Tyr Phe Leu Asn Lys Leu Glu Asn Phe Lys Ser Asn  
435 440 445

Val Lys Ser Pro Gln Ile Gly Ile Tyr Gly Asn Gln Gly Leu Val Ile  
450 455 460

Ser Thr Leu Ser Ser Asn Ser Asn Glu Leu Phe Phe Thr Leu Ile Cys  
465 470 475 480

Gln

<210> 30

<211> 458

<212> PRT

<213> Homo sapiens

<400> 30

Asn Gln Ile Leu Thr Glu Ile Ser Pro Leu Ser Ile Leu Ser Lys Asn  
1 5 10 15

Gly Lys Gly Ser Val Tyr Leu Lys Val Ser Lys Ser Ser Asp Tyr Ile  
20 25 30

Leu Thr Leu Asp Lys Ser Ser Asn Ser Asp Phe Val Phe Lys Ile Tyr  
35 40 45

Asp Ile Ser Asn Lys Lys Tyr Ile Thr Asp Lys Val Lys Arg Arg Asp  
50 55 60

Phe Lys Ile Arg Leu Asp Lys Asn Ser Leu Tyr Ala Ile Ile Tyr Val  
65 70 75 80

Gly Thr Lys Asn Glu Asn Ile Lys Phe Ser Leu Thr Asp Leu Asp Phe  
85 90 95

Ser Ile Leu Ser Ser Asp Ser Leu Lys Ala Lys Thr Ser Lys Ile Glu  
100 105 110

Lys Glu Asp Leu Phe Phe Thr Leu Lys Asp Leu Pro Val Leu Asn Leu  
115 120 125

Thr Ala Lys Leu Lys Lys Tyr Val Leu Arg Ile Tyr Lys Ser Asn Ile  
130 135 140

Tyr Ile Ala Tyr Gln Leu Glu Asn Ser Asp Asp Ile Lys Val Ala Glu  
145 150 155 160

Phe Ile Glu Asp Val Gly Trp Phe Asn Leu Asp Ser Ser Val Asn Arg

165										170										175													
Asn	Ile	Thr	Asn	Ile	Val	Asn	Phe	Asp	Phe	Ser	Ile	Asn	Ser	Lys	Gly																		
			180					185						190																			
Asn	Leu	Tyr	Ile	Ala	Phe	Val	Thr	Lys	Ser	Gly	Ala	Asp	Phe	Ala	Ser																		
		195					200						205																				
Glu	Leu	Ile	Val	Lys	Lys	Phe	Asn	Ser	Arg	Lys	Trp	Ile	Asp	Ile	Ser																		
	210					215					220																						
Pro	Gly	His	Ile	Glu	Asn	Phe	Gly	Ser	Leu	Leu	Asn	Ile	Ser	Ile	Asp																		
	225				230					235				240																			
Leu	Lys	Asp	Arg	Leu	Tyr	Leu	Ala	Tyr	Leu	Arg	Glu	Ile	Arg	Gly	Glu																		
			245					250						255																			
Tyr	Lys	Ile	Asn	Leu	Ile	Ser	Asn	Met	Gly	Tyr	Gly	Ser	Ile	Trp	Thr																		
			260				265						270																				
Asp	Val	Ile	His	Ala	Tyr	Leu	Ser	Lys	Gly	Asp	Ser	Asn	Val	Asn	Ser																		
	275					280						285																					
Ser	Asn	Ile	Gly	Leu	Ile	Ser	Glu	Pro	Phe	Leu	Gly	Ile	Phe	Tyr	Asn																		
	290				295					300																							
Tyr	Lys	Ser	Asn	Asn	Glu	Ile	Lys	Ser	Glu	Phe	Ile	Val	Asn	Asn	Glu																		
	305				310					315				320																			
Asn	Ala	Trp	Val	Asn	Ala	Asn	Ile	Pro	Ser	Val	Tyr	Met	Ala	Asn	Phe																		
			325					330					335																				
Ile	Lys	Gly	Phe	Phe	Asp	Ser	Asn	Phe	Asn	Gln	Ile	Ile	Met	Ser	Phe																		
		340					345						350																				
Val	Ser	Glu	Asn	Arg	Pro	Ile	Val	Asn	Ile	Cys	Pro	Leu	Lys	Ser	Ser																		
		355				360						365																					
Arg	Trp	Ile	Asn	Ile	Ser	Pro	Asn	Val	Glu	Met	Glu	Gly	Leu	Ser	Ala																		
	370				375						380																						
Asp	Ile	Gly	Leu	Tyr	Lys	Asn	Asn	Leu	Phe	Leu	Ala	Phe	Glu	Asp	Asn																		
	385				390				395					400																			
Asn	Asn	Val	Arg	Leu	Ile	Tyr	Phe	Lys	Asn	Lys	Asn	Trp	Tyr	Phe	Leu																		
			405					410					415																				
Asn	Lys	Leu	Glu	Asn	Phe	Lys	Ser	Asn	Val	Lys	Ser	Pro	Gln	Ile	Gly																		
		420					425					430																					
Ile	Tyr	Gly	Asn	Gln	Gly	Leu	Val	Ile	Ser	Thr	Leu	Ser	Ser	Asn	Ser																		
		435				440						445																					
Asn	Glu	Leu	Phe	Phe	Thr	Leu	Ile	Cys	Gln																								
	450					455																											

&lt;210&gt; 31

&lt;211&gt; 1446

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 31

```

atgaaaaataa ataagacatt catttttgcta tttttatttta caaaatttttc ttttgttcaa 60
gctcaagcaa atcaaatatt aacagaaatt agtccttttaa gtatttttaag caaaaatggg 120
aaaggaagtg tttactttaa agtttagcaaa tcttccgatt atatttttaac cctagataag 180
agttcaaatt ccgatttttgt ttttaaaatt tatgacattt ctaataaaaa atatataacc 240
gataaagtaa aaagaagaga ttttaaaata agattagata aaaatttctct ttatgcaata 300
atatatgttg gtactaaaaa tgaaaacata aagtttttcgc ttacagattt agattttttca 360
attttaagta gcgattccct gaaagctaaa acatctaaga ttgaaaaaga agattttattt 420
tttactttta aagatttgcc tgttttaaat ttaactgcca agcttaaaaa atatgtatta 480
aggattttata aaagcaatat ttatattgct tatcagctag aaaatagcga tgatattaaa 540
gttgctgaat ttattgagga tgttggttg tttaatcttg attcatctgt taatagaaat 600
attactaata tagttaattt tgattttttca attaatctta aaggaaattt atatattgct 660
tttgttacga aatcaggggc tgatttttgcc agcgagctta tagttaaaaa atttaatatg 720
agaaaaatgga ttgatattag tcttggtcac atagaaaaatt ttggatcttt attaaatatt 780
agcattgatt taaaagatag gttgtatttta gcataattta gggaaattag ggggtgaatat 840
aaaattaatt taatctcgaa tatgggttac ggaagtattt ggaccgatgt aatcacgtct 900
tatttaagta aaggtgattc taatgttaat tcatcaaaca ttggtttaat atctgaacct 960
tttttgggca ttttttataa ttataagtca aataatgaga ttaaactctga atttattgta 1020
aacaatgaaa atgcttgggt aaatgcaaat attccttctg tttatatggc caatttttatt 1080
aaaggctttt ttgattctaa ttttaatcaa ataattatga gttttgtttc tgaaaaataga 1140
cctattgtta acatttgctc tttgaaaagt agtagatgga ttaatatag tcctaattgtt 1200
gaaatggaag gtttaagtgc tgacattggg ctttataaaa ataatttggt tttagctttt 1260
gaggacaata ataattgtgag attaatattt tttagaata aaaattggta ttttttaaat 1320
aagcttgaga attttaagag taatgtttaa agccctcaga ttggaattta tggcaatcaa 1380
gggcttgtaa tcttactttt aagctctaatt tccaatgaat tattttttac tttgatttgc 1446
caatga

```

&lt;210&gt; 32

&lt;211&gt; 1377

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 32

```

aatcaaatat taacagaaat tagtccttta agtatttttaa gcaaaaatgg gaaaggaagt 60
gtttacttaa aagttagcaa atcttccgat tatatttttaa ccctagataa gagttcaa 120
tccgattttt tttttaaaat ttatgacatt tctaataaaa aatatataac cgataaagta 180
aaaagaagag attttaaaat aagattagat aaaaattctc tttatgcaat aatatatgtt 240
ggtagtaaaa atgaaaacat aaagtttttcg cttacagatt tagatttttc aattttaagt 300
agcgattccc tgaaagctaa aacatctaag attgaaaaag aagatttatt ttttacttta 360
aaagatttgc ctgtttttaa ttttaactgcc aagcttaaaa aatatgtatt aaggatttat 420
aaaagcaata tttatattgc ttatcagcta gaaaaatagc atgatattaa agttgctgaa 480
tttattgagg atgttggttg gtttaattctt gattcatctg ttaatagaaa tattactaat 540
atagttaatt ttgatttttc aattaattct aaaggaaatt tatatattgc ttttgttacg 600
aaatcagggg ctgattttgc cagcgagctt atagttaaaa aatttaatat tagaaaatgg 660
attgatatta gtcctgggtc catagaaaat tttggatctt tattaatat tagcattgat 720
ttaaagata gggtgtattt agcatattta agggaaatta ggggtgaata taaaattaat 780
ttaatctcga atatgggtta cggaagtatt tggaccgatg taatacatgc ttattttaagt 840
aaaggtgatt ctaatgttaa ttcatcaaac attggtttta tatctgaacc tttttgggc 900
attttttata attataagtc aataatgag attgaaatctg aatttattgt aaacaatgaa 960
aatgcttggg taaatgcaaa tattccttct gtttatatgg ccaattttat taaaggcttt 1020
tttgattcta attttaatca aataattatg agttttgttt ctgaaaatag acctattgta 1080
aacatttgct ctttgaaaag tagtagatgg attaatataa gtcctaattg tgaaatggaa 1140
ggtttaagtg ctgacattgg gctttataaa aataatttgt ttttagcttt tgaggacaat 1200
aataattgta gattaattta ttttaagaat aaaaattggt atttttttaa taagcttgag 1260
aattttaaga gtaatgttaa aagccctcag attggaattt atggcaatca agggcttgta 1320

```

atctctactt taagctctaa ttccaatgaa ttatttttta ctttgatttg ccaatga 1377

<210> 33

<211> 454

<212> PRT

<213> Homo sapiens

<400> 33

Met Lys Ile Phe Leu Lys Val Ile Gly Arg Gly Ile Leu Gly Arg Leu  
1 5 10 15

Met Val Phe Arg Lys Asn Tyr Asp Tyr Leu Ala Leu Ile Ser Leu Leu  
20 25 30

Ile Val Ser Phe Val Gly Ile Leu Leu Ile Tyr Ser Ser Asp Tyr Asn  
35 40 45

Ile Ser Gly Ser Leu Thr Lys Asn Glu Tyr Ile Lys Gln Thr Phe Trp  
50 55 60

Val Ile Ile Gly Phe Phe Leu Ile Phe Ile Val Gly Lys Tyr Asp Leu  
65 70 75 80

Lys Phe Val Tyr Ser Met Val Tyr Pro Leu Tyr Phe Leu Leu Ile Leu  
85 90 95

Ala Leu Ile Phe Thr Ala Phe Phe Gly Met Thr Val Asn Gly Ala Arg  
100 105 110

Ser Trp Ile Gly Ile Trp Lys Leu Gly Gly Gln Pro Ser Glu Phe Gly  
115 120 125

Lys Val Val Ile Ile Leu Thr Leu Ser Lys Phe Tyr Thr Glu Lys Lys  
130 135 140

Gly Tyr Asn Glu Phe Phe Thr Phe Ile Thr Ala Phe Leu Leu Ile Phe  
145 150 155 160

Pro Ser Val Ile Leu Ile Leu Leu Gln Pro Asp Phe Gly Thr Ala Ile  
165 170 175

Val Tyr Leu Thr Ile Phe Ile Phe Ile Ser Phe Phe Ala Gly Ile Asp  
180 185 190

Leu His Tyr Val Leu Ala Phe Ala Leu Ile Gly Phe Phe Ser Phe Val  
195 200 205

Phe Ala Ile Leu Pro Val Trp Tyr Glu Tyr Lys Val Asn Met Gly Asn  
210 215 220

Val Phe Tyr Leu Ile Phe Ser Asn Pro Phe Tyr Phe Arg Val Ile Met  
225 230 235 240

Gly Val Leu Leu Leu Ile Leu Leu Ile Ser Val Leu Gly Phe Phe Ile  
245 250 255

Ser Lys Tyr Gly Leu Ser Ile Lys Ile Ile Tyr Phe Tyr Val Phe Phe  
260 265 270



Ala Ser Ser Ile Leu Leu Val Ser Ile Val Phe Ser Lys Val Leu Ser  
 275 280 285  
 Lys Leu Met Lys Thr Tyr Gln Ile Lys Arg Phe Leu Val Phe Leu Asp  
 290 295 300  
 Pro Ala Ile Asp Ala Lys Gly Ala Gly Trp Asn Leu Asn Gln Val Lys  
 305 310 315 320  
 Ile Ala Ile Gly Ser Gly Gly Leu Leu Gly Lys Gly Phe Leu Lys Gly  
 325 330 335  
 Pro Tyr Thr His Ala Asn Tyr Val Pro Ser Gln Ser Thr Asp Phe Ile  
 340 345 350  
 Phe Ser Ile Leu Ala Glu Glu Phe Gly Phe Leu Gly Val Ser Thr Ile  
 355 360 365  
 Leu Ile Leu Phe Phe Phe Leu Phe Phe Lys Phe Leu Ile Ile Met Asn  
 370 375 380  
 Lys Ser Gln Asp Arg Tyr Met Ala Leu Val Ile Ser Gly Ile Leu Gly  
 385 390 395 400  
 Leu Leu Phe Phe His Thr Ser Phe Asn Val Gly Met Ser Leu Gly Val  
 405 410 415  
 Leu Pro Ile Thr Gly Ile Pro Phe Pro Phe Leu Ser Tyr Gly Gly Ser  
 420 425 430  
 Ser Thr Ile Thr Phe Phe Leu Ala Met Ser Phe Tyr Phe Asn Ile Glu  
 435 440 445  
 Ser Ile Val Ala Met Asp  
 450  
 <210> 34  
 <211> 435  
 <212> PRT  
 <213> Homo sapiens  
 <400> 34  
 Arg Lys Asn Tyr Asp Tyr Leu Ala Leu Ile Ser Leu Leu Ile Val Ser  
 1 5 10 15  
 Phe Val Gly Ile Leu Leu Ile Tyr Ser Ser Asp Tyr Asn Ile Ser Gly  
 20 25 30  
 Ser Leu Thr Lys Asn Glu Tyr Ile Lys Gln Thr Phe Trp Val Ile Ile  
 35 40 45  
 Gly Phe Phe Leu Ile Phe Ile Val Gly Lys Tyr Asp Leu Lys Phe Val  
 50 55 60  
 Tyr Ser Met Val Tyr Pro Leu Tyr Phe Leu Leu Ile Leu Ala Leu Ile  
 65 70 75 80

Phe Thr Ala Phe Phe Gly Met Thr Val Asn Gly Ala Arg Ser Trp Ile  
                     85                    90                    95  
 Gly Ile Trp Lys Leu Gly Gly Gln Pro Ser Glu Phe Gly Lys Val Val  
                     100                    105                    110  
 Ile Ile Leu Thr Leu Ser Lys Phe Tyr Thr Glu Lys Lys Gly Tyr Asn  
                     115                    120                    125  
 Glu Phe Phe Thr Phe Ile Thr Ala Phe Leu Leu Ile Phe Pro Ser Val  
                     130                    135                    140  
 Ile Leu Ile Leu Leu Gln Pro Asp Phe Gly Thr Ala Ile Val Tyr Leu  
                     145                    150                    155                    160  
 Thr Ile Phe Ile Phe Ile Ser Phe Phe Ala Gly Ile Asp Leu His Tyr  
                     165                    170                    175  
 Val Leu Ala Phe Ala Leu Ile Gly Phe Phe Ser Phe Val Phe Ala Ile  
                     180                    185                    190  
 Leu Pro Val Trp Tyr Glu Tyr Lys Val Asn Met Gly Asn Val Phe Tyr  
                     195                    200                    205  
 Leu Ile Phe Ser Asn Pro Phe Tyr Phe Arg Val Ile Met Gly Val Leu  
                     210                    215                    220  
 Leu Leu Ile Leu Leu Ile Ser Val Leu Gly Phe Phe Ile Ser Lys Tyr  
                     225                    230                    235                    240  
 Gly Leu Ser Ile Lys Ile Ile Tyr Phe Tyr Val Phe Phe Ala Ser Ser  
                     245                    250                    255  
 Ile Leu Leu Val Ser Ile Val Phe Ser Lys Val Leu Ser Lys Leu Met  
                     260                    265                    270  
 Lys Thr Tyr Gln Ile Lys Arg Phe Leu Val Phe Leu Asp Pro Ala Ile  
                     275                    280                    285  
 Asp Ala Lys Gly Ala Gly Trp Asn Leu Asn Gln Val Lys Ile Ala Ile  
                     290                    295                    300  
 Gly Ser Gly Gly Leu Leu Gly Lys Gly Phe Leu Lys Gly Pro Tyr Thr  
                     305                    310                    315                    320  
 His Ala Asn Tyr Val Pro Ser Gln Ser Thr Asp Phe Ile Phe Ser Ile  
                     325                    330                    335  
 Leu Ala Glu Glu Phe Gly Phe Leu Gly Val Ser Thr Ile Leu Ile Leu  
                     340                    345                    350  
 Phe Phe Phe Leu Phe Phe Lys Phe Leu Ile Ile Met Asn Lys Ser Gln  
                     355                    360                    365  
 Asp Arg Tyr Met Ala Leu Val Ile Ser Gly Ile Leu Gly Leu Leu Phe  
                     370                    375                    380  
 Phe His Thr Ser Phe Asn Val Gly Met Ser Leu Gly Val Leu Pro Ile

385

390

395

400

Thr Gly Ile Pro Phe Pro Phe Leu Ser Tyr Gly Gly Ser Ser Thr Ile  
 405 410 415

Thr Phe Phe Leu Ala Met Ser Phe Tyr Phe Asn Ile Glu Ser Ile Val  
 420 425 430

Ala Met Asp  
 435

<210> 35  
 <211> 1365  
 <212> DNA  
 <213> Homo sapiens

<400> 35  
 atgaagatat tcttaaaggt tataggccgt ggtatattag gtagattaat ggtttttaga 60  
 aaaaattatg attatttggc ttgataagc ttacttatag tttcttttgt tgggtataattg 120  
 ttgatttatt cttagcgatta taatattagt ggatcctttaa ccaagaatga atatataaaa 180  
 caaacctttt gggtaattat tggatttttt ctaattttta tagtgggcaa atatgattta 240  
 aaatttgttt atagcatggg atatccttta tattttttat taatattggc ttttaattttt 300  
 actgcatttt ttggaatgac agtaaatgga gcaagatcct ggattggcat atggaaactt 360  
 ggaggacagc cttctgaatt tggtaaagtt gttattattt taaccctttc aaaattttac 420  
 actgaaaaaa aggggtataa tgaatttttt acctttatta ctgcattttt attaattttt 480  
 ccatcggtaa ttcttatatt attgcaacct gattttggta cagcaatagt atatttaacc 540  
 atttttatat ttatttcttt ttttgcagga atagatttgc actatgtttt agcatttgcg 600  
 ttgatagggt ttttttcttt tgtttttgca attttaccgg tttggatatga atataagggtg 660  
 aatatgggta atgtatttta tcttattttc tcaaactcct tttatttttag agtaataatg 720  
 ggagtgcctgc ttttaattct tttgatttct gttttaggat ttttcatttc taaatatggg 780  
 ttgagtatta aaataattta tttttatgta ttttttgcaa gttctatttt attagtttca 840  
 atagtgtttt caaagggtct ttcaaagtta atgaagactt atcagattaa acggtttttg 900  
 gtattcttag atccggctat tgatgctaag ggtgctgggt ggaatttaaa tcagggttaa 960  
 atagcaattg gttctggcgg tcttttgggc aaaggatttt taaagggacc ttataccac 1020  
 gctaattatg tgccatctca aagcacagat tttatttttt ctattcttgc cgaagagttt 1080  
 gggtttttgg gtgttagcac tattttaata ttattttttt tccttttttt taaatttttg 1140  
 ataataatga ataaaagtca agatagatat atggccttag taatatctgg aattttggga 1200  
 cttttatttt ttcatacttc ttttaatgtt ggaatgtctt taggagttct tcctattacc 1260  
 gggattccct ttccctttct ctcttatgga ggttcttcta ctattacatt ttttttagca 1320  
 atgtcttttt attttaatat tgaatcaata gttgctatgg attga 1365

<210> 36  
 <211> 1308  
 <212> DNA  
 <213> Homo sapiens

<400> 36  
 agaaaaaatt atgattattt ggctttgata agcttactta tagtttcttt tgttgggtata 60  
 ttgttgattt attctagcga ttataatatt agtggatcct taaccaagaa tgaatatata 120  
 aaacaaacct tttgggtaat tattggattt tttctaattt ttatagtggg caaatatgat 180  
 ttaaaatttg tttatagcat ggtatatcct ttatatattt tattaatatt ggctttaatt 240  
 tttactgcat tttttggaat gacagtaaat ggagcaagat cttggatttg catatggaaa 300  
 cttggaggac agccttctga atttggtaaa gttgttatta ttttaaccct ttcaaaattt 360  
 tacactgaaa aaaagggtta taatgaattt tttaccttta ttactgcatt tttattaatt 420  
 tttccatcgg taattcttat attattgcaa cctgattttg gtacagcaat agtatattta 480  
 accattttta tatttatttc tttttttgca ggaatagatt tgcactatgt tttagcattt 540  
 gcgttgatag gggttttttc ttttggtttt gcaattttac cgggttggtg tgaatataag 600  
 gtgaatatgg gtaatgtatt ttatcttatt ttctcaaatc ctttttattt tagagtaata 660

```

atgggagtg tgcctttaat tcttttgatt tctgttttag gatttttcat ttctaaatat 720
ggtttgagta ttaaaataat ttatttttat gtattttttg caagttctat tttattagtt 780
tcaatagtgt tttcaaaggt tctttcaaag ttaatgaaga cttatcagat taaacgggtt 840
ttgggtattct tagatccggc tattgatgct aagggtgctg gttggaattt aaatcagggt 900
aaaatagcaa ttgggttctgg cggctctttg ggcaaaggat ttttaaaggg accttatacc 960
cacgctaatt atgtgccatc tcaaagcaca gatttttatt tttctattct tgccgaagag 1020
tttgggtttt tgggtggttag cactatttta atattatttt ttttcctttt ttttaaattt 1080
ttgataataa tgaataaaaag tcaagataga tatatggcct tagtaataatc tggaattttg 1140
ggacttttat tttttcatac ttcttttaat gttggaatgt ctttaggagt tcttcctatt 1200
accgggattc ctttcctttt tctctcttat ggaggttctt ctactattac atttttttta 1260
gcaatgtctt tttattttta tattgaatca atagttgcta tggattga 1308

```

<210> 37  
 <211> 129  
 <212> PRT  
 <213> Homo sapiens

<400> 37  
 Met Ile Val Phe Leu Phe Phe Ser Ile Tyr Leu Ile Ile Leu Phe Lys  
           1                  5                  10                  15  
 Arg Ser Ser Asn Ser Pro Leu Tyr Phe Val Pro Asp Thr Lys Phe Glu  
                   20                  25                  30  
 Thr Leu Ser Ile Arg Ile Val Leu Ser Cys Ser Leu Leu Leu Ile Phe  
           35                  40                  45  
 Phe Cys Thr Met Leu Asp Ala Arg Pro Ser Thr Ile Ala Val Phe Pro  
           50                  55                  60  
 Thr Pro Gly Ser Pro Ile Ser Ile Ala Leu Phe Leu Phe Leu Leu Lys  
           65                  70                  75                  80  
 Ser Ile Phe Val Arg Val Leu Ile Ser Ala Ser Leu Pro Thr Lys Gly  
                   85                  90                  95  
 Ser Asn Phe Leu Ala Phe Ala Ser Ala Val Lys Phe Leu Thr Tyr Phe  
           100                  105                  110  
 Pro Ile Ser Lys Cys Ser Phe Ser Ser Arg Ile Ser Ser Ser Asn Ser  
           115                  120                  125  
 Leu

<210> 38  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 38  
 Pro Leu Tyr Phe Val Pro Asp Thr Lys Phe Glu Thr Leu Ser Ile Arg  
           1                  5                  10                  15  
 Ile Val Leu Ser Cys Ser Leu Leu Leu Ile Phe Phe Cys Thr Met Leu  
           20                  25                  30  
 Asp Ala Arg Pro Ser Thr Ile Ala Val Phe Pro Thr Pro Gly Ser Pro

35										40					45				
Ile	Ser	Ile	Ala	Leu	Phe	Leu	Phe	Leu	Leu	Lys	Ser	Ile	Phe	Val	Arg				
50					55						60								
Val	Leu	Ile	Ser	Ala	Ser	Leu	Pro	Thr	Lys	Gly	Ser	Asn	Phe	Leu	Ala				
65					70					75					80				
Phe	Ala	Ser	Ala	Val	Lys	Phe	Leu	Thr	Tyr	Phe	Pro	Ile	Ser	Lys	Cys				
				85					90					95					
Ser	Phe	Ser	Ser	Arg	Ile	Ser	Ser	Ser	Asn	Ser	Leu								
100							105												

```
<210> 39
<211> 390
<212> DNA
<213> Homo sapiens
```

```
<400> 39
atgattgtgt ttttgttttt ttcaatatat ttaattatat tatttaaacg atcttcaaac 60
tcgcctctat attttgttcc cgataccaag tttgaaacct taagcattag aattgttttg 120
tcttgtagtt tgctacttat ttttttttgc actatgcttg atgcaaggcc ttcaactatt 180
gctgtttttc ccacaccagg ttgcgctatt agcattgcac tatttttatt tcttctcaag 240
agtatatattg taagagtttt aatcctctgct tctcttccaa ccaaggggtc taattttttg 300
gcttttgcaa gtgctgttaa atttttgaca tactttccaa tttcaaagtg ctcattttca 360
agtcdtattt cttcatcaaa ttctttgtag                                     390
```

```
<210> 40
<211> 327
<212> DNA
<213> Homo sapiens
```

<400> 40	ttgttcccga	taccaagttt	gaaaccttaa	gcattagaat	tgttttgtct	60
cctctatatatt	tacttatctt	tttttgcact	atgcttgatg	caaggccttc	aactattgct	120
tgtagtattgc	caccagggttc	gcctattagc	attgcactat	ttttatttct	tctcaagagt	180
ttgtttccca	gagttttaat	ctctgtctct	cttccaacca	aggggtctaa	ttttttggct	240
atatttgtaa	ctgttaaatt	tttgacatac	tttccaatt	caaagtgctc	atttttcaagt	300
tttgcaagtg	cttatctctt	tttgttag				327

```
<210> 41
<211> 107
<212> PRT
<213> Homo sapiens
```

```

<400> 41
Met Lys Ala Phe Lys Val Lys Asn Leu Arg Arg Phe Ser Asn Phe Ile
  1             5             10             15
Arg ile Leu Val Ile Val Leu Phe Leu Asn Ser Leu Leu Ser Leu Phe
      20             25             30
Val Phe Leu Ala Gly Ser Tyr Asn Ile Phe Val Tyr Asn Phe Gln Lys
      35             40             45
Phe Tyr Leu Asp Leu Ala Ile Ile Leu Ser Ser Val Ser Phe Gly Leu
      50             55             60

```

Glu Ser Thr Arg Leu Ile Phe Phe Tyr Phe Leu Lys Asn Lys Lys Ile  
 65 70 75 80

Lys Tyr Tyr Leu Ile Leu Ile Phe Ser Phe Ile Ile Phe Phe Ile Ala  
 85 90 95

Leu Val Phe Lys Ile Phe Leu Ser Gly Asn Lys  
 100 105

<210> 42

<211> 69

<212> PRT

<213> Homo sapiens

<400> 42

Tyr Asn Ile Phe Val Tyr Asn Phe Gln Lys Phe Tyr Leu Asp Leu Ala  
 1 5 10 15

Ile Ile Leu Ser Ser Val Ser Phe Gly Leu Glu Ser Thr Arg Leu Ile  
 20 25 30

Phe Phe Tyr Phe Leu Lys Asn Lys Lys Ile Lys Tyr Tyr Leu Ile Leu  
 35 40 45

Ile Phe Ser Phe Ile Ile Phe Phe Ile Ala Leu Val Phe Lys Ile Phe  
 50 55 60

Leu Ser Gly Asn Lys  
 65

<210> 43

<211> 324

<212> DNA

<213> Homo sapiens

<400> 43

atgaaagctt ttaaagtaaa aaatctaaga cgtttttcaa attttattag aatttttggtt 60  
 attgtattgt ttttaaattc ttgtttaagt ttgttcgtgt ttttggtggtg ttcttacaat 120  
 atttttggtt acaattttca gaaattttat ctgatcttg ctattatttt aagctctggtt 180  
 tcttttggac ttgaatctac tagactgata tttttttatt ttttgaaaaa taaaaaaatt 240  
 aagtattatt taattttaat ttttagtttt ataatttttt ttattgctct tgttttttaa 300  
 atttttcttt ctggttaataa atag 324

<210> 44

<211> 210

<212> DNA

<213> Homo sapiens

<400> 44

tacaatattt ttgtttacaa ttttcagaaa ttttatcttg atcttgctat tattttaagc 60  
 tctgtttctt ttggacttga atctactaga ctgatatttt tttatttttt gaaaaataaa 120  
 aaaattaagt attatttaat ttttaatttt agttttataa ttttttttat tgctcttggtt 180  
 tttaaaattt ttctttctgg taataaatag 210

<210> 45

<211> 155

<212> PRT

<213> Homo sapiens

<400> 45

```

Met Lys Lys Leu Ile Ile Ile Phe Thr Leu Phe Leu Ser Gln Ala Cys
 1           5           10           15

Asn Leu Ser Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys Ile
      20           25           30

Leu Tyr Ser Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn His
      35           40           45

Leu Glu Ile Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala Ile
      50           55           60

Lys Leu Gly Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr Thr
      65           70           75           80

Pro Met Gln Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr Arg
      85           90           95

Glu Ile Leu Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala Trp
      100          105          110

Leu Asn Ser Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr Asp
      115          120          125

Lys Ile Gly Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile Phe
      130          135          140

Val Val Leu Phe Gly Lys Arg Lys Tyr Lys Asn
      145          150          155

```

<210> 46

<211> 136

<212> PRT

<213> Homo sapiens

<400> 46

```

Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys Ile Leu Tyr Ser
 1           5           10           15

Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn His Leu Glu Ile
      20           25           30

Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala Ile Lys Leu Gly
      35           40           45

Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr Thr Pro Met Gln
      50           55           60

Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr Arg Glu Ile Leu
      65           70           75           80

Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala Trp Leu Asn Ser
      85           90           95

Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr Asp Lys Ile Gly

```

100 105 110

Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile Phe Val Val Leu  
 115 120 125

Phe Gly Lys Arg Lys Tyr Lys Asn  
 130 135

<210> 47  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

<400> 47  
 atgaaaaaat tgattataat ttttacactg tttttatctc aagcatgcaa ttttaagtaca 60  
 atgcataaaa tagatacaaaa agaagatatg aaaattctat attcagaaat tgctgaattg 120  
 agaaaaaaat taaatctaaa ccatctagaa atagatgata cccttgaaaa agttgcaaaa 180  
 gaatatgcc aataactggg agaaaataga acaataactc acaccctttt tggcacaacc 240  
 ccaatgcaaa gaatacataa atacgatcaa tcctttaatt taacaagaga aatactggca 300  
 tcaggaattg aacttaacag agtagttaat gcatggctta atagtccaag ccacaaagaa 360  
 gctcttatta atacagatac cgataaaaata ggtggctata gattaaaaac gactgacaat 420  
 atagatatat ttgtagttct ttttggaaaa agaaaatata agaattga 468

<210> 48  
 <211> 411  
 <212> DNA  
 <213> Homo sapiens

<400> 48  
 acaatgcata aaatagatac aaaagaagat atgaaaattc tatattcaga aattgctgaa 60  
 ttgagaaaaa aattaaatct aaaccatcta gaaatagatg atacccttga aaaagttgca 120  
 aaagaatatg ccattaaact gggagaaaaat agaacaataa ctcacaccct ttttggcaca 180  
 accccaatgc aaagaatata taaatacgat caatccttta atttaacaag agaaatactg 240  
 gcatcaggaa ttgaacttaa cagagtagtt aatgcattggc ttaatagtcc aagccacaaa 300  
 gaagctctta ttaatacaga taccgataaa ataggtggct atagattaaa aacgactgac 360  
 aatatagata tattttagt tctttttgga aaaagaaaat ataagaattg a 411

<210> 49  
 <211> 633  
 <212> PRT  
 <213> Homo sapiens

<400> 49  
 Met Lys Leu Lys Ala Arg Met Leu Leu Leu Val Leu Ile Leu Ile Ala  
 1 5 10 15

Phe Phe Ile Ser Ile Leu Phe Phe Ala Phe Gly Met Leu Ile Asn Ser  
 20 25 30

Lys Leu Val Asp Gln Gln Phe Asn Leu Met Ile Asn Leu Ile Glu Ser  
 35 40 45

Ile Lys Ser Ser Phe Asn Leu Tyr Ile Ser Ser Met Glu Glu Lys Val  
 50 55 60

Arg Val Ser Ser Met Tyr Phe Asn Ser Ala Glu Lys Phe Asn Glu Ala  
 65 70 75 80



Ser Lys Ile Lys Ser Lys Arg Leu Ser Phe Ile Ser Asp Gln Ser Glu  
 85 90 95  
 Ile Leu Ile Gln Thr Gly Ser Asn Met Met Val Thr Asp Lys Glu Gly  
 100 105 110  
 Lys Ile Val Phe Thr Thr Ala Val Lys Asp Asn Ser Asp Phe Gly Lys  
 115 120 125  
 Ser Ile Gly Asp Arg Glu Tyr Phe Thr Lys Leu Lys Glu Ser Asn Ser  
 130 135 140  
 Ile Val Tyr Asn Ser Phe Val Met Leu Ala Asp Pro Gly Ser Ile Glu  
 145 150 155 160  
 Glu Ser Leu Leu Lys Asp Ile Ser Lys Ile Lys Asn Lys Lys Gly Gln  
 165 170 175  
 Ile Pro Tyr Ile Leu Ile Gly Met Pro Leu Arg Asp Phe Glu Thr Asp  
 180 185 190  
 Asn Ile Phe Gly Tyr Phe Met Phe Leu Tyr Ser Met Asp Tyr Ile Tyr  
 195 200 205  
 Arg Ser Phe Arg Gly Ile Asn Phe Gly Ile Leu Ser Ser Gly Arg Ala  
 210 215 220  
 Leu Ala Tyr Asp Thr Thr Gly Arg Leu Leu Val His His Val Val Leu  
 225 230 235 240  
 Pro Gly Asp Ile Leu Thr Asp Ile Ser Ala Ser Tyr Ser Asn Ile Ile  
 245 250 255  
 Lys Lys Thr Ser Glu Asp Leu Leu Gln Lys Asn Lys Glu Ile Ser Thr  
 260 265 270  
 Val Tyr Tyr Tyr Asp Pro Lys Ser Asn Lys Lys Tyr Val Gly Ile Ser  
 275 280 285  
 Gln Lys Val Leu Leu Asn Leu Ser Asn Asn Lys Phe Ile Leu Leu Met  
 290 295 300  
 Arg Thr Ser Glu Asp Asp Phe Tyr Tyr Met Ser Arg Ala Thr Thr Ile  
 305 310 315 320  
 Ile Leu Ala Ile Ser Phe Val Phe Thr Leu Leu Met Leu Ala Ile Ala  
 325 330 335  
 Thr Leu Tyr Leu Val Lys Lys Leu Ser Ser Ser Leu Asn Lys Ile Leu  
 340 345 350  
 Glu Tyr Ser Glu Arg Leu Ala Ser Gly Asn Phe Thr Ala Asp Ile Asn  
 355 360 365  
 Phe Gly Lys Trp Asp Thr Val Glu Leu Tyr Ser Leu Tyr Glu Gly Leu  
 370 375 380  
 Glu Gln Leu Arg Thr Asn Phe Ser Ser Val Ala Lys Gly Val Ile Glu

385                      390                      395                      400  
 Asn Leu Asp Tyr Leu Tyr Glu Asn Ala Ile Gln Ile Ala Asn Ala Ser  
                                  405                      410                      415  
 Gln Asn Leu Ser Ser Gly Ala Val Glu Gln Ala Ser Thr Leu Glu Gln  
                                  420                      425                      430  
 Met Thr Ala Asn Ile Glu Gln Ile Ser Gln Gly Val Ser Glu Asn Thr  
                                  435                      440                      445  
 Glu Asn Ala Ala Thr Thr Glu Lys Ile Ala Val Asn Thr Asn Glu Arg  
                                  450                      455                      460  
 Thr Lys Glu Gly His Lys Ser Val Val Lys Ala Ile Glu Ala Met Thr  
                                  465                      470                      475                      480  
 Val Ile Thr Glu Lys Ile Gly Ile Ile Asp Glu Ile Thr Arg Gln Thr  
                                  485                      490                      495  
 Asn Leu Leu Ala Leu Asn Ala Ser Ile Glu Ala Ala Arg Val Gly Glu  
                                  500                      505                      510  
 Lys Gly Lys Gly Phe Glu Val Val Ala Ala Glu Val Arg Lys Leu Ala  
                                  515                      520                      525  
 Asp Gln Ser Lys Glu Ser Ala Arg Glu Ile Ile Asp Ile Ala Asn Arg  
                                  530                      535                      540  
 Ser Leu Thr Val Ala Ser Arg Ala Gly Glu Asn Phe Glu Gln Ile Val  
                                  545                      550                      555                      560  
 Pro Gly Met Glu Gln Thr Ala Arg Leu Val Lys Asn Ile Ser Asn Glu  
                                  565                      570                      575  
 Ser Tyr Lys Gln Ser Val Gln Ile Glu Gln Phe Lys Asn Ala Ile Glu  
                                  580                      585                      590  
 Gln Val Ser Gln Leu Val Gln Thr Thr Ala Ser Ser Ser Glu Glu Leu  
                                  595                      600                      605  
 Ser Ala Met Ser Glu Lys Met Leu Glu Ser Val Lys Asp Leu Lys Glu  
                                  610                      615                      620  
 Ser Val Asp Tyr Phe Lys Ile Glu Lys  
                                  625                      630  
  
 <210> 50  
 <211> 606  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 50  
 Met Leu Ile Asn Ser Lys Leu Val Asp Gln Gln Phe Asn Leu Met Ile  
   1                                    5                                    10                                    15  
 Asn Leu Ile Glu Ser Ile Lys Ser Ser Phe Asn Leu Tyr Ile Ser Ser  
                                  20                                    25                                    30

Met	Glu	Glu	Lys	Val	Arg	Val	Ser	Ser	Met	Tyr	Phe	Asn	Ser	Ala	Glu	35	40	45
Lys	Phe	Asn	Glu	Ala	Ser	Lys	Ile	Lys	Ser	Lys	Arg	Leu	Ser	Phe	Ile	50	55	60
Ser	Asp	Gln	Ser	Glu	Ile	Leu	Ile	Gln	Thr	Gly	Ser	Asn	Met	Met	Val	65	70	75
Thr	Asp	Lys	Glu	Gly	Lys	Ile	Val	Phe	Thr	Thr	Ala	Val	Lys	Asp	Asn	85	90	95
Ser	Asp	Phe	Gly	Lys	Ser	Ile	Gly	Asp	Arg	Glu	Tyr	Phe	Thr	Lys	Leu	100	105	110
Lys	Glu	Ser	Asn	Ser	Ile	Val	Tyr	Asn	Ser	Phe	Val	Met	Leu	Ala	Asp	115	120	125
Pro	Gly	Ser	Ile	Glu	Glu	Ser	Leu	Leu	Lys	Asp	Ile	Ser	Lys	Ile	Lys	130	135	140
Asn	Lys	Lys	Gly	Gln	Ile	Pro	Tyr	Ile	Leu	Ile	Gly	Met	Pro	Leu	Arg	145	150	155
Asp	Phe	Glu	Thr	Asp	Asn	Ile	Phe	Gly	Tyr	Phe	Met	Phe	Leu	Tyr	Ser	165	170	175
Met	Asp	Tyr	Ile	Tyr	Arg	Ser	Phe	Arg	Gly	Ile	Asn	Phe	Gly	Ile	Leu	180	185	190
Ser	Ser	Gly	Arg	Ala	Leu	Ala	Tyr	Asp	Thr	Thr	Gly	Arg	Leu	Leu	Val	195	200	205
His	His	Val	Val	Leu	Pro	Gly	Asp	Ile	Leu	Thr	Asp	Ile	Ser	Ala	Ser	210	215	220
Tyr	Ser	Asn	Ile	Ile	Lys	Lys	Thr	Ser	Glu	Asp	Leu	Leu	Gln	Lys	Asn	225	230	235
Lys	Glu	Ile	Ser	Thr	Val	Tyr	Tyr	Tyr	Asp	Pro	Lys	Ser	Asn	Lys	Lys	245	250	255
Tyr	Val	Gly	Ile	Ser	Gln	Lys	Val	Leu	Leu	Asn	Leu	Ser	Asn	Asn	Lys	260	265	270
Phe	Ile	Leu	Leu	Met	Arg	Thr	Ser	Glu	Asp	Asp	Phe	Tyr	Tyr	Met	Ser	275	280	285
Arg	Ala	Thr	Thr	Ile	Ile	Leu	Ala	Ile	Ser	Phe	Val	Phe	Thr	Leu	Leu	290	295	300
Met	Leu	Ala	Ile	Ala	Thr	Leu	Tyr	Leu	Val	Lys	Lys	Leu	Ser	Ser	Ser	305	310	315
Leu	Asn	Lys	Ile	Leu	Glu	Tyr	Ser	Glu	Arg	Leu	Ala	Ser	Gly	Asn	Phe	325	330	335

Thr Ala Asp Ile Asn Phe Gly Lys Trp Asp Thr Val Glu Leu Tyr Ser  
 340 345 350  
 Leu Tyr Glu Gly Leu Glu Gln Leu Arg Thr Asn Phe Ser Ser Val Ala  
 355 360 365  
 Lys Gly Val Ile Glu Asn Leu Asp Tyr Leu Tyr Glu Asn Ala Ile Gln  
 370 375 380  
 Ile Ala Asn Ala Ser Gln Asn Leu Ser Ser Gly Ala Val Glu Gln Ala  
 385 390 395 400  
 Ser Thr Leu Glu Gln Met Thr Ala Asn Ile Glu Gln Ile Ser Gln Gly  
 405 410 415  
 Val Ser Glu Asn Thr Glu Asn Ala Ala Thr Thr Glu Lys Ile Ala Val  
 420 425 430  
 Asn Thr Asn Glu Arg Thr Lys Glu Gly His Lys Ser Val Val Lys Ala  
 435 440 445  
 Ile Glu Ala Met Thr Val Ile Thr Glu Lys Ile Gly Ile Ile Asp Glu  
 450 455 460  
 Ile Thr Arg Gln Thr Asn Leu Leu Ala Leu Asn Ala Ser Ile Glu Ala  
 465 470 475 480  
 Ala Arg Val Gly Glu Lys Gly Lys Gly Phe Glu Val Val Ala Ala Glu  
 485 490 495  
 Val Arg Lys Leu Ala Asp Gln Ser Lys Glu Ser Ala Arg Glu Ile Ile  
 500 505 510  
 Asp Ile Ala Asn Arg Ser Leu Thr Val Ala Ser Arg Ala Gly Glu Asn  
 515 520 525  
 Phe Glu Gln Ile Val Pro Gly Met Glu Gln Thr Ala Arg Leu Val Lys  
 530 535 540  
 Asn Ile Ser Asn Glu Ser Tyr Lys Gln Ser Val Gln Ile Glu Gln Phe  
 545 550 555 560  
 Lys Asn Ala Ile Glu Gln Val Ser Gln Leu Val Gln Thr Thr Ala Ser  
 565 570 575  
 Ser Ser Glu Glu Leu Ser Ala Met Ser Glu Lys Met Leu Glu Ser Val  
 580 585 590  
 Lys Asp Leu Lys Glu Ser Val Asp Tyr Phe Lys Ile Glu Lys  
 595 600 605  
 <210> 51  
 <211> 1902  
 <212> DNA  
 <213> Homo sapiens  
 <400> 51  
 atgaagctta aagctaggat gttgctactt gttcttattc tgatagcatt ctttatatca 60

```

atcttgtttt ttgcttttgg aatgcttatt aatagtaaat tgggtggatca acagtttaat 120
cttatgataa atctttattga aagcattaaa agttctttta atctttacat ctcttcaatg 180
gaagagaaaag ttagggttag ttccatgtat ttcaactctg ctgaaaaaatt taatgaggct 240
agtaaaaatta aatccaaaag gttgagcttt atttcagatc aatctgaaat tcttattcaa 300
accggtagta atatgatggg tacagacaaa gaaggtaaaa tagtggttac tacggcggtt 360
aaggataata gtgatttttg caaatctatt ggggatagag aatattttac aaaacttaag 420
gagtctaata gtattgttta caattccttt gtcattgttg cagatcccgg gtctattgag 480
gagtctttac ttaaagatat ttccaagata aaaaataaaa aagggtcagat tccttacata 540
ttaataggta tgccattaag agattttgaa acagataaca tttttgggta ttttatgttt 600
ctttattcaa tggattatat atataggtct tttagaggga ttaatttttg aatactctct 660
agcggtcgtg cgctagctta tgatactacg ggtagattgt tgggtcatca tgtagattg 720
ccagggtgata ttttgactga tattagtgtt tcttattcca atattattaa gaaaacatct 780
gaagatttgt tgcaaaaagaa taaagaaatt tcaactgttt attattatga tcctaaaagc 840
aataagaaat atgtgggaat tagtcaaaag gtgttattaa acttgtctaa taataaattt 900
attcttttaa tgagaacttc agaggacgat ttttattaca tgtcacgagc tacaactata 960
atcttagcaa ttagttttgt atttacatta ctatgtcttg ctattgcaac tctttatctt 1020
gtgaaaaagt taagctcttc tttgaataag atactggaat attctgagag acttgcttct 1080
ggtaattttt ctgctgatat taattttggc aaatgggata ctgtagagct ttacagtttg 1140
tacgaagggc ttgagcagtt gagaaccaat ttttcttcag ttgcaaaagg agttattgaa 1200
aatctagatt atctttatga aaatgcaatt caaatagcaa atgcaagcca gaatttaagt 1260
tctggcgctg ttgagcaggc ttctacttta gagcaaatga cagcaaatat tgagcaaat 1320
tcacaagggtg tttctgagaa tactgaaaat ctgagactta ctgaaaaaat tgctgttaat 1380
actaatgaaa ggactaaaga ggggcataaa tctgtgtgta aggctattga ggcaatgact 1440
gtaattactg aaaaaatttg aattattgat gagataacaa ggcaaaccac tttgcttgct 1500
ttaaatgcct cgattgaagc tgcacgagtg ggagaaaagg gcaagggatt tgaagtggta 1560
gctgctgagg ttagaaagct tgcagatcaa agcaagaat cagcaagaga gattattgat 1620
attgcaaaa gaagtttaac tgttgcaagt cgtgctgggg aaaattttga acaaatagtt 1680
cctggtatgg aacaaacagc cagacttgta aaaaatattt ctaatgaaag ttataagcaa 1740
agtgttcaaa tagagcaatt taaaaatgca atagcagg ttagttagtt agtccaaact 1800
acagcctcaa gcagtgaaga gctttctgca atgtctgaaa agatgttaga gagtgtaaaa 1860
gatttaaaag aatctgttga ttattttaag atcgaaaagt aa 1902

```

<210> 52

<211> 1821

<212> DNA

<213> Homo sapiens

<400> 52

```

atgcttatta atagtaaaatt ggtggatcaa cagtttaatc ttatgataaa tcttattgaa 60
agcattaaaa gttcttttaa tctttacatc tcttcaatgg aagagaaaagt tagggtagt 120
tccatgtatt tcaactctgc tgaaaaaatt aatgaggcta gtaaaattaa atccaaaagg 180
ttgagcttta ttccagatca atctgaaatt cttattcaaa ccggtagtaa tatgatgggt 240
acagacaaaag aaggtaaaat agtggtttact acggcggtta aggataatag tgattttggc 300
aaatctattg gggatagaga atattttaca aaacttaagg agtctaatag tattgtttac 360
aattcctttg tcatgtttggc agatcccggg tctattgagg agtctttact taaagatatt 420
tccaagataa aaaaataaaa aggtcagatt ccttacatat taatagggtat gccattaaga 480
gattttgaaa cagataacat ttttggttat tttatgtttc tttattcaat ggattatata 540
tatagggtctt ttagagggat taattttgga atactctcta gcggctcgtgc gctagcttat 600
gatactacgg gtagattggt ggttcatcat gtagtattgc cagggtgatat tttgactgat 660
attagtgtct cttattccaa tattattaag aaaacatctg aagattttgt gcaaaaagaat 720
aaagaaaatt caactgttta ttattatgat cctaaaagca ataagaaata tgtgggaatt 780
agtcaaaagg tgtttatata cttgtctaatt aataaattta tctttttaat gagaacttca 840
gaggacgatt tttattacat gtcacgagct acaactataa tcttagcaat tagttttgta 900
tttacattac ttatgcttgc tattgcaact ctttatcttg tgaaaaagtt aagctcttct 960
ttgaataaga tactggaata ttctgagaga ctgtctcttg gtaattttac tgctgatatt 1020
aattttggca aatgggatac tgtagagctt tacagtttgt acgaagggtt tgagcagttg 1080
agaaccaatt tttcttcagt tgcaaaagga gttattgaaa atctagatta tctttatgaa 1140
aatgcaattc aaatagcaaa tgcaagccag aatttaagtt ctggcgctgt tgagcaggct 1200

```

```

tctacttttag agcaaatgac agcaaatatt gagcaaatTT cacaagggtgt ttctgagaat 1260
actgaaaatg cagctactac tgaaaaaatt gctgttaata ctaatgaaag gactaaagag 1320
gggcataaat ctgttggttaa ggctattgag gcaatgactg taattactga aaaaattgga 1380
attattgatg agataacaag gcaaaccaat ttgcttgctt taaatgcctc gattgaagct 1440
gcacgagtgG gagaaaaggG caagggattt gaagtggtag ctgctgaggt tagaaagctt 1500
gcagatcaaaa gcaaagaatc agcaagagag attattgata ttgcaaacag aagtttaact 1560
gttgcaagtc gtgctggggg aaattttgaa caaatagttc ctggtatgga acaaacagcc 1620
agacttgtaa aaaatatttc taatgaaagt tataagcaaa gtgttcaaat agagcaattt 1680
aaaaatgcaa tagagcaggG tagtcagtta gtccaaacta cagcctcaag cagtgaagag 1740
ctttctgcaa tgtctgaaaa gatgttagag agtgtaaaag atttaaaaga atctgttgat 1800
tattttaaga tcgaaaagta a 1821

```

&lt;210&gt; 53

&lt;211&gt; 229

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 53

```

Met Arg Phe Ile Ile Ala Phe Leu Met Ile Leu Asn Gln Gly Phe Ser
  1           5           10          15
Asn Leu Phe Ser Leu Pro Pro Glu Asp Ile Ile Phe Glu Ser Ser Tyr
          20          25          30
Glu Val Ala Ile Lys Lys Ala Gln Lys Leu Asn Lys Asn Val Leu Ile
          35          40          45
Leu Val Gly Arg Asp Ile Lys Glu Asn Leu Ile Lys Asp Phe Leu Asn
          50          55          60
Ser Phe Thr Asn Gly Glu Ile Ile His Lys Val Ser Arg Lys Ser Val
          65          70          75          80
Phe Leu Val Ile Asp Lys Asp Asn Glu Ile Phe Asn Lys Ile Asn Leu
          85          90          95
Gln Lys Ser Pro Thr Ile Phe Phe Val Asp Ser Lys Asn Glu Gln Ile
          100         105         110
Lys Ala Ala Tyr Val Gly Ala Val Leu Ser Ser Val Gln Phe Asp Lys
          115         120         125
Asp Phe Leu Asn Tyr Val Met Gly Ala Ile Lys Ser Thr Ser Val Leu
          130         135         140
Lys Lys Gln Lys Asp Tyr Glu Ile Asn Thr Ala Asp Glu Arg Thr Phe
          145         150         155         160
Phe Tyr Lys Thr Leu Lys Gly Asp Trp Arg Leu Lys Phe Asn Gly Lys
          165         170         175
Asp Arg Lys Leu Val Leu Phe Asp Thr Asp Leu Lys Glu Phe Leu Val
          180         185         190
Phe Lys Asp Ile Asn Glu Asn Lys Leu Tyr Ala Ile Pro Lys Ser Arg
          195         200         205
Ile Gly Asn Ile Tyr Phe Ser Leu Leu Gly Asn Glu Glu Trp Lys Leu

```

210 215 220

Phe Gly Lys Ile Lys  
225

<210> 54  
<211> 690  
<212> DNA  
<213> Homo sapiens

<400> 54  
atgagattta taattgcatt tttaatgatt tttaatcaag gattttcaaa tttgttttct 60  
ttgcctccgg aagatattat ttttgagagt tcttatgagg ttgcaattaa aaaagctcaa 120  
aaattgaata aaaatgtttt aatttttggtt ggtagagata ttaaagaaaa ttttaataaaa 180  
gatttttttaa actctttttac aaatgggtgaa attattcaca aagtatctag aaaaagtgtt 240  
tttttagtta ttgataagga taatgaaatt ttttaataaaa ttaatctaca aaaaagtccg 300  
actatttttt ttgttgattc taagaatgag caaataaagg cagcttatgt gggagctgtt 360  
ttgagcagtg ttcaatttga taaggatttt ttaaaactatg ttatgggagc tataaaatca 420  
acaagtgttt taaaaaagca aaaagattat gaaattaata ctgctgatga gagaaccttt 480  
ttttacaaaa cattaaaagg tgattggcga ttaaagttta atggtaaaga cagaaagctt 540  
gttctttttg atacagatct taaagaattt ttagttttta aagatattaa tgaaaacaag 600  
ctttatgcta ttcctaagtc taggattggt aatatttatt tttcattatt gggaaatgaa 660  
gaatggaagc tttttggaaa aataaaataa 690

<210> 55  
<211> 630  
<212> DNA  
<213> Homo sapiens

<400> 55  
ttgcctccgg aagatattat ttttgagagt tcttatgagg ttgcaattaa aaaagctcaa 60  
aaattgaata aaaatgtttt aatttttggtt ggtagagata ttaaagaaaa ttttaataaaa 120  
gatttttttaa actctttttac aaatgggtgaa attattcaca aagtatctag aaaaagtgtt 180  
tttttagtta ttgataagga taatgaaatt ttttaataaaa ttaatctaca aaaaagtccg 240  
actatttttt ttgttgattc taagaatgag caaataaagg cagcttatgt gggagctgtt 300  
ttgagcagtg ttcaatttga taaggatttt ttaaaactatg ttatgggagc tataaaatca 360  
acaagtgttt taaaaaagca aaaagattat gaaattaata ctgctgatga gagaaccttt 420  
ttttacaaaa cattaaaagg tgattggcga ttaaagttta atggtaaaga cagaaagctt 480  
gttctttttg atacagatct taaagaattt ttagttttta aagatattaa tgaaaacaag 540  
ctttatgcta ttcctaagtc taggattggt aatatttatt tttcattatt gggaaatgaa 600  
gaatggaagc tttttggaaa aataaaataa 630

<210> 56  
<211> 133  
<212> PRT  
<213> Homo sapiens

<400> 56  
Met Gln Asp Arg Lys Phe Ser Phe Arg Lys Tyr Phe Leu Ile Ser Val  
1 5 10 15  
Phe Leu Ile Phe Ile Val Ser Gly Ile Thr Tyr Phe Tyr Ser Thr Gln  
20 25 30  
Met Leu Glu Lys Ser Gln Lys Cys Val Glu Asp Asn Leu Asp Ala Lys  
35 40 45  
Val Lys Leu Val Asp Met Glu Asp Phe Tyr Phe Asp Leu Asn Glu Cys

[illegible]

```
<210> 57
<211> 103
<212> PRT
<213> Homo sapiens
```

```

<400> 57
Thr Gln Met Leu Glu Lys Ser Gln Lys Cys Val Glu Asp Asn Leu Asp
  1             5             10             15

Ala Lys Val Lys Leu Val Asp Met Glu Asp Phe Tyr Phe Asp Leu Asn
      20             25             30

Glu Cys Leu Asn Met Asp Asp Phe Phe Ile Pro Arg Pro Asp Phe Leu
      35             40             45

Asn Glu Asn Leu Asn Lys Asn Leu Val Val Asp Gly Leu Ile Lys Asn
  50             55             60

Lys Phe Leu Asp Glu Asn Phe Phe Lys Asp Leu Trp Ile Lys Lys Glu
  65             70             75             80

Asn Leu Phe Asn Val Asp Ile Glu Lys Glu Asn Glu Lys Leu Ile Asp
      85             90             95

Lys Ile Leu Glu Ile Ser Lys
      100

```

```
<210> 58
<211> 402
<212> DNA
<213> Homo sapiens
```

```
<400> 58
âtgcagata gaaagtttag ttttagaaaa ttttttttaa tttcagtatt tttgattttt 60
attgtttctg gtattactta tttctattca acacaaatgt tggaaaaatc tcaaaagtgt 120
gttgaagaca atttagacgc taagggttaaa ttagttgata tggaaagattt ttatttttgat 180
ttaaatgaat gtctaaatat ggatgatttt tttattccaa gacctgattt tttaaatgaa 240
aattttaaata agaatttagt tgttgatgga ttgattaaaa ataaatttct tgatgagaat 300
tttttcaagg atctttggat taaaaaggaa aattttattta acgttgatat tgagaaggag 360
aatgaaaaat taatagataa gatttttagaa atttccaaat ga 402
```



<210> 59  
 <211> 312  
 <212> DNA  
 <213> Homo sapiens

<400> 59  
 acacaaatgt tggaaaaatc tcaaaagtgt gttgaagaca atttagacgc taagggttaa 60  
 ttagttgata tggaaagattt ttattttgat ttaaatgaat gtctaaatat ggatgatttt 120  
 tttattccaa gacctgattt tttaaatgaa aatttaaata agaatttagt tgttgatgga 180  
 ttgattaaaa ataaatttct tgatgagaat tttttcaagg atctttggat taaaaaggaa 240  
 aatttattta acgttgatat tgagaaggag aatgaaaaat taatagataa gattttagaa 300  
 atttccaaat ga 312

<210> 60  
 <211> 346  
 <212> PRT  
 <213> Homo sapiens

<400> 60  
 Met Ile Arg Lys Tyr Leu Ile Tyr Ile Ser Leu Leu Phe Ile Val Phe  
 1 5 10 15  
 Glu Val Tyr Ser Lys Pro Ala Phe Ile Ser Gln Asp Asp Ser Tyr Glu  
 20 25 30  
 Leu Asp Phe Ser Ser Gly Glu Val Asp Ile Ser Val Asn Thr Asn Ser  
 35 40 45  
 Lys Phe Asn Leu Ser Phe Lys Asp Glu Ser Trp Ile Tyr Ile Lys Ser  
 50 55 60  
 Ile Glu Asn Glu Ala Phe Ile Lys Leu Ile Gly Glu Ser Tyr Asp Asn  
 65 70 75 80  
 Gly Ala Val Phe Thr Phe Gln Thr Phe Lys Lys Glu Gly Lys Ile Lys  
 85 90 95  
 Leu Val Phe Thr Tyr Gln Asn Val Lys Asp Ser Ser Glu Phe Asn Lys  
 100 105 110  
 Ile Ile Ile Leu Lys Ile Thr Lys Asn Phe Glu Val Ala Ile Pro Gln  
 115 120 125  
 Gly Val Gly Gly Gly Ser Ser Arg Asp Asn Asn Ile Glu Thr Gly Asn  
 130 135 140  
 Asn Leu Glu Leu Gly Gly Gly Ser Ile Ser Gly Ala Thr Ser Lys Glu  
 145 150 155 160  
 Ile Ile Val Arg Ala Leu Asn Leu Ser Tyr Ile Asn Asp Tyr Lys Gly  
 165 170 175  
 Ala Ile Asp Leu Leu Asn Lys Tyr Asn Phe Asn Asp Asp Lys Tyr Ile  
 180 185 190  
 Leu Leu Lys Ala Glu Ile His Tyr Lys Asn Gly Asp Tyr Leu Lys Ser  
 195 200 205

Tyr Glu Asn Tyr Leu Lys Leu Lys Ser Lys Tyr Phe Gln Ser Ile Val  
210 215 220

Phe Asp Leu Ile Arg Leu Ala Ile Glu Leu Asn Ile Lys Glu Glu Val  
225 230 235 240

Leu Glu Asn Ala Arg Tyr Leu Val Glu Lys Asn Val Asp Phe Ser Glu  
245 250 255

Ser Ile Tyr Leu Glu Ile Phe Glu Phe Leu Val Thr Arg Gly Glu His  
260 265 270

Glu Phe Ala Leu Asn Phe Ser Ser Leu Tyr Phe Pro Lys Tyr Ile Asn  
275 280 285

Ser Ser Phe Ser Asp Lys Tyr Ser Tyr Leu Leu Gly Lys Leu Tyr Glu  
290 295 300

Ser Glu Ser Lys His Lys Asp Phe Leu Lys Ala Leu His Tyr Tyr Lys  
305 310 315 320

Leu Val Ile Asp Asn Tyr Pro Phe Ser Tyr Tyr Tyr Glu Arg Ala Lys  
325 330 335

Ile Arg Tyr Leu Phe Leu Lys Arg Phe Phe  
340 345

<210> 61

<211> 326

<212> PRT

<213> Homo sapiens

<400> 61

Lys Pro Ala Phe Ile Ser Gln Asp Asp Ser Tyr Glu Leu Asp Phe Ser  
1 5 10 15

Ser Gly Glu Val Asp Ile Ser Val Asn Thr Asn Ser Lys Phe Asn Leu  
20 25 30

Ser Phe Lys Asp Glu Ser Trp Ile Tyr Ile Lys Ser Ile Glu Asn Glu  
35 40 45

Ala Phe Ile Lys Leu Ile Gly Glu Ser Tyr Asp Asn Gly Ala Val Phe  
50 55 60

Thr Phe Gln Thr Phe Lys Lys Glu Gly Lys Ile Lys Leu Val Phe Thr  
65 70 75 80

Tyr Gln Asn Val Lys Asp Ser Ser Glu Phe Asn Lys Ile Ile Ile Leu  
85 90 95

Lys Ile Thr Lys Asn Phe Glu Val Ala Ile Pro Gln Gly Val Gly Gly  
100 105 110

Gly Ser Ser Arg Asp Asn Asn Ile Glu Thr Gly Asn Asn Leu Glu Leu  
115 120 125

Gly Gly Gly Ser Ile Ser Gly Ala Thr Ser Lys Glu Ile Ile Val Arg

130 135 140

Ala Leu Asn Leu Ser Tyr Ile Asn Asp Tyr Lys Gly Ala Ile Asp Leu  
 145 150 155 160

Leu Asn Lys Tyr Asn Phe Asn Asp Asp Lys Tyr Ile Leu Leu Lys Ala  
 165 170 175

Glu Ile His Tyr Lys Asn Gly Asp Tyr Leu Lys Ser Tyr Glu Asn Tyr  
 180 185 190

Leu Lys Leu Lys Ser Lys Tyr Phe Gln Ser Ile Val Phe Asp Leu Ile  
 195 200 205

Arg Leu Ala Ile Glu Leu Asn Ile Lys Glu Glu Val Leu Glu Asn Ala  
 210 215 220

Arg Tyr Leu Val Glu Lys Asn Val Asp Phe Ser Glu Ser Ile Tyr Leu  
 225 230 235 240

Glu Ile Phe Glu Phe Leu Val Thr Arg Gly Glu His Glu Phe Ala Leu  
 245 250 255

Asn Phe Ser Ser Leu Tyr Phe Pro Lys Tyr Ile Asn Ser Ser Phe Ser  
 260 265 270

Asp Lys Tyr Ser Tyr Leu Leu Gly Lys Leu Tyr Glu Ser Glu Ser Lys  
 275 280 285

His Lys Asp Phe Leu Lys Ala Leu His Tyr Tyr Lys Leu Val Ile Asp  
 290 295 300

Asn Tyr Pro Phe Ser Tyr Tyr Tyr Glu Arg Ala Lys Ile Arg Tyr Leu  
 305 310 315 320

Phe Leu Lys Arg Phe Phe  
 325

&lt;210&gt; 62

&lt;211&gt; 1041

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 62

atgattagaa aatatttgat ttatataagt ttgctattta ttgtttttga agtttactct 60  
 aagccagctt ttataagtca agacgattcg tatgagcttg attttagtag tggagaggta 120  
 gatattagtg taaataccaa ttcaaaattt aatctttctt ttaaagatga gtcttggatt 180  
 tatatcaaaa gcattgaaaa tgaagctttt attaagttaa ttggagaatc ttatgataac 240  
 ggtgctgttt ttacttttca gactttttaa aaagaaggca aaattaaatt ggttttcact 300  
 tatcaaaatg ttaaagattc aagtgaattt aataaaataa ttatcttgaa aattacaaag 360  
 aattttgaag ttgcaattcc acaaggcgtt ggtggtggct ctgacaggga caataacatt 420  
 gaaactggta ataactctga acttgggggg gggagtatta gcggggcaac ttctaaagag 480  
 attattgtta gggcttttaa tttgtcctac ataaatgatt acaaaggagc aatagatttg 540  
 cttaataagt ataatttcaa tgacgataaa tatattttat tgaaggcgga aattcattat 600  
 aaaaatgggtg attattttaa atcttatgaa aattatttga aattgaagag taaatatttt 660  
 caaagcattg tttttgatct aattaggctt gctatagaat taaatattaa agaagagggt 720  
 ttagagaacg ctagatattt agttgaaaag aatggttgatt tttctgagag catttatctt 780  
 gagatctttg aattcttagt aacaagggga gagcatgagt ttgcttttaa ttttagctct 840

```

ctttactttc ctaagtatat taattcaagc ttttcagaca aatatagtta tttgttgagg 900
aaactttatg agtctgagag caagcataaa gattttttta aggctttgca ttactataaa 960
ttgggtattg ataattaccc ttttagttat tattatgaga gagccaagat aagatattta 1020
tttttaaagc gggtttttta g 1041

```

<210> 63  
 <211> 981  
 <212> DNA  
 <213> Homo sapiens

```

<400> 63
aagccagctt ttataagtca agacgattcg tatgagcttg attttagtag tggagaggta 60
gatattagt taaataccaa ttcaaaattt aatctttctt ttaaagatga gtcttggatt 120
tatatcaaaa gcattgaaaa tgaagctttt attaagttaa ttggagaatc ttatgataac 180
gggtgctgtt ttacttttca gactttttaa aaagaaggca aaattaaatt gggttttact 240
tatcaaaatg ttaaagattc aagtgaattt aataaaataa ttatcttgaa aattacaaag 300
aattttgaag ttgcaattcc acaaggcggt ggtggtggct ctacgaggga caataacatt 360
gaaactggta ataactctga acttgggggg gggagtatta gcggggcaac ttctaaagag 420
attattgtta gggcttttaa tttgtcctac ataaatgatt acaaaggagc aatagatttg 480
cttaataagt ataatttcaa tgacgataaa tatattttat tgaaggcgga aattcattat 540
aaaaatgggt attattttaa atcttatgaa aattatttga aattgaagag taaatatttt 600
caaagcattg tttttgatct aattaggcct gctatagaat taaatattaa agaagaggtt 660
ttagagaacg ctatgatatt agttgaaaag aatgttgatt tttctgagag catttatctt 720
gagatctttg aattcttagt aacaagggga gagcatgagt ttgcttttaa ttttagctct 780
ctttactttc ctaagtatat taattcaagc ttttcagaca aatatagtta tttgttgagg 840
aaactttatg agtctgagag caagcataaa gattttttta aggctttgca ttactataaa 900
ttgggtattg ataattaccc ttttagttat tattatgaga gagccaagat aagatattta 960
tttttaaagc gggtttttta g 981

```

<210> 64  
 <211> 505  
 <212> PRT  
 <213> Homo sapiens

```

<400> 64
Met Thr Lys Val Leu Val Val Ser Ala Ile Ala Leu Leu Ser Lys Asp
  1          5          10          15

Lys Glu Leu Ile Pro Phe Tyr Lys Phe Leu Phe Leu Phe Phe Phe
  20          25          30

Thr Leu Leu Ala Cys Ser Lys Val Ser Lys Asp Phe Ile Val Phe Asn
  35          40          45

Lys Asp Val Lys Thr Ser Ser Arg Ile Asp Asn Pro Asn Ser Asn Val
  50          55          60

Leu Glu Val Asn Lys Met Glu Asp Phe Phe Gly Asp Ile Ile Asp Leu
  65          70          75          80

Lys Gly Tyr Lys Ile Leu Ser Val Gln Gln Glu Asn Leu Asn Leu Asp
  85          90          95

Val Tyr Phe Glu Gln Val Val Leu Ala Gln Asn Phe Ser Asn Leu Asn
 100          105          110

Ala Tyr Leu Phe Ile Ile Gly Phe Asp Pro Lys Ile Lys Ala Gly Thr
 115          120          125

```

Ile Leu Phe Lys Thr Gln Ile Asp Ile Asp Pro Lys Asn Ser Tyr Asn  
 130 135 140  
 Met Tyr Leu Glu Asp Ile Thr Gly Asp Tyr Asp Phe Asn Ile Val Ile  
 145 150 155 160  
 Gln Gly Phe Leu Lys Asp Lys Ser Val Leu Tyr Val Phe Gln Lys Ser  
 165 170 175  
 Val Leu Asn Asp Val Ser Ser Tyr Arg Pro Ile Phe Phe Asp Lys Val  
 180 185 190  
 Asn Gly Thr Val Leu Ile Asn Lys Tyr Ala Arg Ser Ser Ala Tyr Glu  
 195 200 205  
 Glu Asn Arg Ser Arg Glu Ser Tyr Pro Ile Ser Leu Glu Lys Tyr Glu  
 210 215 220  
 Lys Val Gly Glu Asp Leu Ile Ile Ser Lys Ile Glu Lys Tyr Glu Tyr  
 225 230 235 240  
 Ser Asn Val Gln Gly Arg Tyr Cys Leu Ser Ser Val Ser Glu Lys Val  
 245 250 255  
 Gly Lys Ile Asp Asn Asn Ile Tyr Lys Thr Leu Lys Asn Leu Ser Lys  
 260 265 270  
 Asp Glu Val Tyr Lys Phe Leu His Gly Val Trp Tyr Asp Val His Asp  
 275 280 285  
 Tyr Asn Lys Met His Val Lys Asp Ile Asp Glu Val Leu Phe Leu Ser  
 290 295 300  
 Phe Glu Arg Gln Ser Ser Glu Ile Asn Leu Phe Arg Lys Asn Ser Gln  
 305 310 315 320  
 Glu Val Ala Lys Ile Glu Tyr Ile Ser Lys Pro Ala Tyr Asn Thr Leu  
 325 330 335  
 Asn Val Ser Ala Lys Ser Leu Phe Ser Asp Leu Ile Val Tyr Asn Phe  
 340 345 350  
 Trp Ile Lys Ile Val Asp Lys Glu Asn Ile Glu Ile Lys Ile Asp Thr  
 355 360 365  
 Ser Thr Asn Ser Tyr Asp Asn Ser Gly Phe Ser Gly Thr Phe Lys Arg  
 370 375 380  
 Phe Asp Glu Asn Val Leu Asn Val Lys Lys Gly Ser Ser Asp Ile Tyr  
 385 390 395 400  
 Phe Ile Pro Ser Gly Asn Tyr Val Tyr Lys Asp Lys Ile Tyr Asp Phe  
 405 410 415  
 Ser Tyr Pro His Leu Thr Tyr Ile Asp Glu Asn Lys Ile Tyr Tyr Gly  
 420 425 430

Ile Phe Asn Ile Phe Pro Leu Lys Asn Asn Phe Val Leu Glu Tyr Glu  
435 440 445

Ile Asp Met Gly Ser Tyr Lys Leu Val Glu Ser Phe Phe Leu Glu His  
450 455 460

Ser Glu Arg Ile Val Gln Lys Gln Lys Phe Ser Thr Ile Ile Leu Asn  
465 470 475 480

Pro Ile Lys Ile Leu Lys Asp Asp Val Ser Leu Val Lys Gly Gln Lys  
485 490 495

Leu Lys Leu Glu Arg Ile Glu Lys Ile  
500 505

<210> 65

<211> 491

<212> PRT

<213> Homo sapiens

<400> 65

Lys Asp Lys Glu Leu Ile Pro Phe Tyr Lys Phe Leu Phe Leu Phe Phe  
1 5 10 15

Phe Phe Thr Leu Leu Ala Cys Ser Lys Val Ser Lys Asp Phe Ile Val  
20 25 30

Phe Asn Lys Asp Val Lys Thr Ser Ser Arg Ile Asp Asn Pro Asn Ser  
35 40 45

Asn Val Leu Glu Val Asn Lys Met Glu Asp Phe Phe Gly Asp Ile Ile  
50 55 60

Asp Leu Lys Gly Tyr Lys Ile Leu Ser Val Gln Gln Glu Asn Leu Asn  
65 70 75 80

Leu Asp Val Tyr Phe Glu Gln Val Val Leu Ala Gln Asn Phe Ser Asn  
85 90 95

Leu Asn Ala Tyr Leu Phe Ile Ile Gly Phe Asp Pro Lys Ile Lys Ala  
100 105 110

Gly Thr Ile Leu Phe Lys Thr Gln Ile Asp Ile Asp Pro Lys Asn Ser  
115 120 125

Tyr Asn Met Tyr Leu Glu Asp Ile Thr Gly Asp Tyr Asp Phe Asn Ile  
130 135 140

Val Ile Gln Gly Phe Leu Lys Asp Lys Ser Val Leu Tyr Val Phe Gln  
145 150 155 160

Lys Ser Val Leu Asn Asp Val Ser Ser Tyr Arg Pro Ile Phe Phe Asp  
165 170 175

Lys Val Asn Gly Thr Val Leu Ile Asn Lys Tyr Ala Arg Ser Ser Ala  
180 185 190

Tyr Glu Glu Asn Arg Ser Arg Glu Ser Tyr Pro Ile Ser Leu Glu Lys

195	200	205
Tyr Glu Lys Val Gly Glu Asp Leu Ile Ile Ser Lys Ile Glu Lys Tyr		
210	215	220
Glu Tyr Ser Asn Val Gln Gly Arg Tyr Cys Leu Ser Ser Val Ser Glu		
225	230	235 240
Lys Val Gly Lys Ile Asp Asn Asn Ile Tyr Lys Thr Leu Lys Asn Leu		
	245	250 255
Ser Lys Asp Glu Val Tyr Lys Phe Leu His Gly Val Trp Tyr Asp Val		
	260	265 270
His Asp Tyr Asn Lys Met His Val Lys Asp Ile Asp Glu Val Leu Phe		
	275	280 285
Leu Ser Phe Glu Arg Gln Ser Ser Glu Ile Asn Leu Phe Arg Lys Asn		
	290	295 300
Ser Gln Glu Val Ala Lys Ile Glu Tyr Ile Ser Lys Pro Ala Tyr Asn		
305	310	315 320
Thr Leu Asn Val Ser Ala Lys Ser Leu Phe Ser Asp Leu Ile Val Tyr		
	325	330 335
Asn Phe Trp Ile Lys Ile Val Asp Lys Glu Asn Ile Glu Ile Lys Ile		
	340	345 350
Asp Thr Ser Thr Asn Ser Tyr Asp Asn Ser Gly Phe Ser Gly Thr Phe		
	355	360 365
Lys Arg Phe Asp Glu Asn Val Leu Asn Val Lys Lys Gly Ser Ser Asp		
	370	375 380
Ile Tyr Phe Ile Pro Ser Gly Asn Tyr Val Tyr Lys Asp Lys Ile Tyr		
385	390	395 400
Asp Phe Ser Tyr Pro His Leu Thr Tyr Ile Asp Glu Asn Lys Ile Tyr		
	405	410 415
Tyr Gly Ile Phe Asn Ile Phe Pro Leu Lys Asn Asn Phe Val Leu Glu		
	420	425 430
Tyr Glu Ile Asp Met Gly Ser Tyr Lys Leu Val Glu Ser Phe Phe Leu		
	435	440 445
Glu His Ser Glu Arg Ile Val Gln Lys Gln Lys Phe Ser Thr Ile Ile		
	450	455 460
Leu Asn Pro Ile Lys Ile Leu Lys Asp Asp Val Ser Leu Val Lys Gly		
465	470	475 480
Gln Lys Leu Lys Leu Glu Arg Ile Glu Lys Ile		
	485	490

&lt;210&gt; 66

&lt;211&gt; 1518

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 66

```

atgacaaaagg ttttggttgt tagtgcgatt gctcttctga gtaaggataa agaattaatc 60
ccattttata aatttttggt tttattcttt ttttttacat tacttgcttg ttccaaggta 120
agcaaagatt ttattgtttt taacaaagat gtaaagactt cttccaggat cgataatcca 180
aattccaatg ttttagaagt taataaaatg gaagattttt ttggagatat tatagattta 240
aaagggtata aaattctttc agttcagcag gaaaatttaa atttagatgt gtattttgag 300
cagggtggtt tagctcaaaa tttttcaaat cttaatgcat atttgtttat tattgggttt 360
gatcctaataa ttaaaagctgg aacgattctt tttaaaactc aaatagatat tgatccaaaa 420
aattcttata acatgtatct tgaagatatt acaggtgatt atgattttta tatagttatt 480
caaggatttt taaaagataa atctgttttg tatgtttttc aaaaatctgt tttaaatgat 540
gtgtcttctt ataggcctat attttttgac aaagttaatg gaactgttct tattaataag 600
tatgcaagat cttcagctta tgaagaaaac agatcaagag aaagctatcc tatttcttta 660
gaaaaatatg aaaaagtggg ggaagattta ataattagca agattgaaaa atatgaatat 720
tctaagtgtt agggtagata ttgtctttct tctgtgagcg aaaaagtgtg taaaattgat 780
aataatattt ataaaacttt aaagaattta agcaaagatg aagtttataa atttttgcat 840
ggagtgttgt atgatgttca tgactataat aaaatgcatg tcaaagatat tgatgaagtt 900
ttattcttgt cttttgaaag gcaatcaagc gagattaatc ttttcaggaa aaattctcaa 960
gaagttgcaa agattgaata tatttcaaaa cctgcttaca atactcttaa tgttagtgc 1020
aagtcctctt tttcagattt gatagtttat aacttttgga tcaaaattgt agataaagaa 1080
aacattgaaa tcaaaattga cactagcaca aattcttatg ataatagtgg attttcgggt 1140
acatttaaga ggtttgatga gaatgtctta aatgttaaaa aagggagtag tgatatttat 1200
tttattctta gtggaaatta cgtgtataag gataaaattt atgatttttc ttacccccat 1260
ttaacttata ttgatgagaa taaaatttat tatggcattt ttaatatatt tcttttaaaa 1320
aataattttg ttcttgaata tgagattgac atgggtagtt acaagcttgt tgaatctttt 1380
ttccttgagc atagcgaag aattgttcaa aagcaaaaat tttctacaat cattttaaat 1440
cctattaaaa ttttaaaaga tgatgtaagc ttagttaaaag ggcaaaaatt aaagcttgag 1500
cgaatagaaa aaatatga                                     1518

```

&lt;210&gt; 67

&lt;211&gt; 1476

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 67

```

aaggataaag aattaatccc attttataaa tttttgtttt tattcttttt ttttacatta 60
cttgcttgtt ccaaggtaag caaagatttt attgttttta acaaagatgt aaagacttct 120
cccaggatcg ataatccaaa ttccaatggt ttagaagtta ataaaatgga agattttttt 180
ggagatatta tagatttaaa aggttataaa attctttcag ttcagcagga aaattttaat 240
ttagatgtgt attttgagca ggtggtttta gctcaaaatt tttcaaatct taatgcatat 300
ttgtttatta ttgggttttg tcctaaaatt aaagctggaa cgattctttt taaaactcaa 360
atagatattg atccaaaaaa ttcttataac atgtatcttg aagatattac aggtgattat 420
gatttttaata tagttattca aggattttta aaagataaat ctgttttgta tgtttttcaa 480
aaatctgttt taaatgatgt gtcttcttat aggcctatat tttttgacaa agttaatgga 540
actgttctta ttaataagta tgcaagatct tcagcttatg aagaaaacag atcaagagaa 600
agctatccta tttcttttaga aaaatatgaa aaagtggggg aagatttaat aattagcaag 660
attgaaaaat atgaatatcc taatgttcag ggtagatatt gtctttcttc tgtgagcgaa 720
aaagttggta aaattgataa taatatattat aaaaacttaa agaatttaag caaagatgaa 780
gtttataaat ttttgcatgg agtttggtat gatgttcacg actataataa atgcatgtc 840
aaagatattg atgaagtttt attcttgtct ttgaaaggc aatcaagcga gattaatctt 900
ttcaggaaaa attctcaaga agttgcaaag attgaatata tttcaaaacc tgcttacaat 960
actcttaatg ttagtcaaaa gtctcttttt tcagatttga tagtttataa cttttggatc 1020
aaaattgtag ataaagaaaa cattgaaatc aaaattgaca ctagcacaaa ttcttatgat 1080
aagagtggat tttcgggtac atttaagagg ttgtatgaga atgtcttaaa tgttaaaaaa 1140
gggagtagtg atatttattt tattcctagt ggaaattacg tgtataagga taaaatttat 1200
gatttttctt acccccattt aacttatatt gatgagaata aaatttatta tggcattttt 1260

```



```

aatatttttc ctttaaaaaa taattttgtt cttgaatatg agattgacat gggtagttac 1320
aagcttggtg aatctttttt ccttgagcat agcgaaagaa ttgttcaaaa gcaaaaattt 1380
tctacaatca ttttaaatcc tattaaaatt ttaaaagatg atgtaagctt agttaaaggg 1440
caaaaattaa agcttgagcg aatagaaaaa atatga 1476

```

<210> 68  
 <211> 179  
 <212> PRT  
 <213> Homo sapiens

```

<400> 68
Met Asn Lys Leu Leu Ile Phe Val Leu Ala Thr Phe Cys Val Phe Ser
 1          5          10          15

Ser Phe Ala Gln Ala Asn Asp Ser Lys Asn Gly Ala Phe Gly Met Ser
      20          25          30

Ala Gly Glu Lys Leu Leu Val Tyr Glu Thr Ser Lys Gln Asp Pro Ile
      35          40          45

Val Pro Phe Leu Leu Asn Leu Phe Leu Gly Phe Gly Ile Gly Ser Phe
      50          55          60

Ala Gln Gly Asp Ile Leu Gly Gly Ser Leu Ile Leu Gly Phe Asp Ala
      65          70          75          80

Val Gly Ile Gly Leu Ile Leu Ala Gly Ala Tyr Leu Asp Ile Lys Ala
      85          90          95

Leu Asp Gly Ile Thr Lys Lys Ala Ala Phe Gln Trp Thr Trp Gly Lys
      100          105          110

Gly Val Met Leu Ala Gly Val Val Thr Met Ala Val Thr Arg Leu Thr
      115          120          125

Glu Ile Ile Leu Pro Phe Thr Phe Ala Asn Ser Tyr Asn Arg Lys Leu
      130          135          140

Lys Asn Ser Leu Asn Val Ala Leu Gly Gly Phe Glu Pro Ser Phe Asp
      145          150          155          160

Val Ala Met Gly Gln Ser Ser Ala Leu Gly Phe Glu Leu Ser Phe Lys
      165          170          175

Lys Ser Tyr

```

<210> 69  
 <211> 158  
 <212> PRT  
 <213> Homo sapiens

```

<400> 69
Asn Asp Ser Lys Asn Gly Ala Phe Gly Met Ser Ala Gly Glu Lys Leu
 1          5          10          15

Leu Val Tyr Glu Thr Ser Lys Gln Asp Pro Ile Val Pro Phe Leu Leu
      20          25          30

```

Asn Leu Phe Leu Gly Phe Gly Ile Gly Ser Phe Ala Gln Gly Asp Ile  
35 40 45

Leu Gly Gly Ser Leu Ile Leu Gly Phe Asp Ala Val Gly Ile Gly Leu  
50 55 60

Ile Leu Ala Gly Ala Tyr Leu Asp Ile Lys Ala Leu Asp Gly Ile Thr  
65 70 75 80

Lys Lys Ala Ala Phe Gln Trp Thr Trp Gly Lys Gly Val Met Leu Ala  
85 90 95

Gly Val Val Thr Met Ala Val Thr Arg Leu Thr Glu Ile Ile Leu Pro  
100 105 110

Phe Thr Phe Ala Asn Ser Tyr Asn Arg Lys Leu Lys Asn Ser Leu Asn  
115 120 125

Val Ala Leu Gly Gly Phe Glu Pro Ser Phe Asp Val Ala Met Gly Gln  
130 135 140

Ser Ser Ala Leu Gly Phe Glu Leu Ser Phe Lys Lys Ser Tyr  
145 150 155

<210> 70

<211> 540

<212> DNA

<213> Homo sapiens

<400> 70

atgaataaac ttttaatttt tgttttggca accttttgtg ttttttctag ctttgctcaa 60  
gctaatagatt ctaaaaatgg tgcgtttggg atgagtgcgtg gagaaaaact tttggtttat 120  
gaaactagca agcaagatcc tattgtacca tttttattga accttttttt agggtttggg 180  
ataggctcct ttgctcaagg agatattctt ggagggttctc ttattcttgg atttgatgcg 240  
gttggtatag ggcttatact tgcgggggct tatttggata tcaaagcgct tgatgggtatt 300  
actaaaaaag ctgcttttca atggacttgg ggtaaggagg ttatgttagc aggtgtgggt 360  
actatggctg tgacaagatt aacagaaatt attcttccat ttacatttgc taatagttat 420  
aataggaagc taaaaaatag ccttaatgta gctttaggag gatttgaacc tagttttgat 480  
gttgcaatgg gccaatccag tgctcttggg tttgaactgt ctttcaaaaa aagctattaa 540

<210> 71

<211> 477

<212> DNA

<213> Homo sapiens

<400> 71

aatgattcta aaaatgggtgc gtttgggatg agtgctggag aaaaactttt ggtttatgaa 60  
actagcaagc aagatcctat tgtaccattt ttattgaacc tttttttagg gtttgggaata 120  
ggctcctttg ctcaaggaga tattcttggg gggtctctta ttcttggatt tgatgcgggt 180  
ggtatagggc ttatacttgc gggggcttat ttggatatca aagcgcttga tgggtattact 240  
aaaaaagctg cttttcaatg gacttggggg aaggaggtta tgtagcagg tgtgggtact 300  
atggctgtga caagattaac agaaattatt cttccattta catttgctaa tagttataat 360  
aggaagctaa aaaatagcct taatgtagct ttaggaggat ttgaacctag ttttgatggt 420  
gcaatgggcc aatccagtgc tcttgggttt gaactgtctt tcaaaaaaag ctattaa 477

<210> 72

<211> 212

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 72

Met Arg Lys Tyr Ile Phe Ile Ile Leu Ile Ala Val Leu Leu Ile Gly  
 1 5 10 15

Val Asn Ile Lys Lys Ile Ala Ala Ala Asn Ile Asp Arg His Thr  
 20 25 30

Asn Ser Thr Leu Gly Ile Asp Leu Ser Val Gly Ile Pro Ile Phe Tyr  
 35 40 45

Asn Asp Leu Ser Lys Ala Tyr Pro Thr Asn Leu Tyr Pro Gly Gly Ile  
 50 55 60

Gly Ala Ile Lys Tyr Gln Tyr His Ile Leu Asn Asn Leu Ala Ile Gly  
 65 70 75 80

Leu Glu Leu Arg Tyr Met Phe Asn Phe Asp Ile Asn His Ser Phe Asn  
 85 90 95

Ile Leu Asn Pro Asp Ser Ser Val Gly Lys Ile Phe Tyr Ser Val Pro  
 100 105 110

Ile Thr Phe Ser Ile Asn Tyr Ile Phe Asp Ile Gly Glu Leu Phe Gln  
 115 120 125

Ile Pro Val Phe Thr Asn Ile Gly Phe Ser Leu Asn Thr Tyr Gly Asp  
 130 135 140

Arg Asn Asn Asn Ile Thr Asn Leu Arg Thr Phe Asp Ala Leu Pro Thr  
 145 150 155 160

Ile Ser Phe Gly Ser Gly Ile Leu Trp Asn Phe Asn Tyr Lys Trp Ala  
 165 170 175

Phe Gly Ala Thr Ala Ser Trp Trp Met Met Phe Glu Phe Gly Asn Ser  
 180 185 190

Ala Lys Met Ala His Phe Ala Leu Val Ser Leu Ser Val Thr Val Asn  
 195 200 205

Val Asn Lys Leu  
 210

&lt;210&gt; 73

&lt;211&gt; 187

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 73

Ala Asn Ile Asp Arg His Thr Asn Ser Thr Leu Gly Ile Asp Leu Ser  
 1 5 10 15

Val Gly Ile Pro Ile Phe Tyr Asn Asp Leu Ser Lys Ala Tyr Pro Thr  
 20 25 30

Asn Leu Tyr Pro Gly Gly Ile Gly Ala Ile Lys Tyr Gln Tyr His Ile  
35 40 45

Leu Asn Asn Leu Ala Ile Gly Leu Glu Leu Arg Tyr Met Phe Asn Phe  
50 55 60

Asp Ile Asn His Ser Phe Asn Ile Leu Asn Pro Asp Ser Ser Val Gly  
65 70 75 80

Lys Ile Phe Tyr Ser Val Pro Ile Thr Phe Ser Ile Asn Tyr Ile Phe  
85 90 95

Asp Ile Gly Glu Leu Phe Gln Ile Pro Val Phe Thr Asn Ile Gly Phe  
100 105 110

Ser Leu Asn Thr Tyr Gly Asp Arg Asn Asn Asn Ile Thr Asn Leu Arg  
115 120 125

Thr Phe Asp Ala Leu Pro Thr Ile Ser Phe Gly Ser Gly Ile Leu Trp  
130 135 140

Asn Phe Asn Tyr Lys Trp Ala Phe Gly Ala Thr Ala Ser Trp Trp Met  
145 150 155 160

Met Phe Glu Phe Gly Asn Ser Ala Lys Met Ala His Phe Ala Leu Val  
165 170 175

Ser Leu Ser Val Thr Val Asn Val Asn Lys Leu  
180 185

<210> 74

<211> 639

<212> DNA

<213> Homo sapiens

<400> 74

atgagaaagt atatttttat aataactaatt gcagtccttg taattggtgt aaacataaaa 60  
aaaattgctg ccgcagccaa tattgatagg catacaaaact ccactttagg aatagattta 120  
agtgtaggaa tccctatttt ttacaacgac ttatcaaaag cttatcctac caattttatat 180  
ccaggaggta ttggggcaat aaaataccag taccatattt taaacaattt agcaattgga 240  
cttgaactaa ggtatatgtt taactttgat attaaccatt cttttaatat attaaatcca 300  
gattcaagt taggtaaaat tttttatagc gtgcctatta cattttcaat aaattatata 360  
tttgatatag gagaattatt tcaaattcca gtcttcacaa atatagggtt ttctcttaat 420  
acatatggag atagaaacaa caatattaca aatttaagaa cttttgatgc actccctaca 480  
atctcttttg gatctggaat tttatggaac tttaactata aatgggcttt tggagcaaca 540  
gcatcttggg ggatgatgtt tgaatttgga aattctgcta aaatggcaca ttttgcaatt 600  
gtatcattat cagttacagt gaatgtaaat aaattgtag 639

<210> 75

<211> 564

<212> DNA

<213> Homo sapiens

<400> 75

gccaatattg ataggcatat aaactccact ttaggaatag atttaagtgt aggaatccct 60  
attttttaca acgacttatc aaaagcttat cctaccaatt tatatccagg aggtattggg 120  
gcaataaaat accagtacca tatttttaaac aatttagcaa ttggacttga actaagggtat 180  
atgtttaact ttgatattaa ccattctttt aatatattaa atccagattc aagtgtagggt 240

```

aaaatttttt atagcgtgcc tattacattt tcaataaatt atatatttga tataggagaa 300
ttattttcaaa ttccagtctt cacaaatata gggttttctc ttaatacata tggagataga 360
aacaacaata ttacaaattt aagaactttt gatgcactcc ctacaatctc ttttggatct 420
ggaattttat ggaactttaâ ctataaatgg gcttttggag caacagcatc ttggtggatg 480
atgtttgaat ttggaaattc tgctaaaatg gcacattttg cacttgtatc attatcagtt 540
acagtgaatg taaataaatt gtag 564

```

<210> 76

<211> 379

<212> PRT

<213> Homo sapiens

<400> 76

```

Met Lys Asn Gln Phe Leu Asn Ser Tyr Phe Gln Leu Ile Thr Thr Ile
  1              5              10              15

```

```

Phe Leu Ile Ser Ser Ile Thr Ile Ala Ala Glu Glu Ile Thr Ser Thr
      20              25              30

```

```

Leu Lys Val Pro Asn Gly Phe Lys Val Glu Ile Phe Leu Asn Asn Thr
      35              40              45

```

```

Ile Glu Lys Pro Arg Gly Ile Thr Ser Asp Gln Asp Gly Asn Ile Phe
      50              55              60

```

```

Ile Gly Ser Gly Ser Thr Phe Ala Tyr Phe Val Thr Lys Asn Arg Lys
      65              70              75              80

```

```

Ile Tyr Thr Ile Ala Lys Thr Leu Gln Lys Pro Ile Gly Ile Asp Tyr
      85              90              95

```

```

Trp Asp Asn Lys Leu Tyr Ile Ser Ser Val Asp Lys Ile Tyr Val Val
      100              105              110

```

```

Lys Asn Val Lys Glu Glu Ile Asn Lys Ser Ile Lys Ser His Lys Asp
      115              120              125

```

```

Tyr Thr Trp Lys Met Gln Ile Phe Ala Leu Leu Pro Lys Asn Asn Ser
      130              135              140

```

```

Gln Met His Ser Gly Arg Tyr Ile Lys Val Asp Ser Lys Asn Asn Lys
      145              150              155              160

```

```

Leu Ile Val Asn Ile Gly Ser Gln His Asn Val Lys Ile Pro Pro Lys
      165              170              175

```

```

Lys Glu Ala Val Ile Leu Ser Ile Asn Leu Lys Thr Lys Lys Glu Glu
      180              185              190

```

```

Ile Val Ala Phe Gly Val Arg Asn Ser Val Gly Phe Asp Phe His Pro
      195              200              205

```

```

Ile Ser Asn Glu Ile Tyr Phe Ser Asp Asn Gly Gln Asp Gly Leu Gly
      210              215              220

```

```

Asp Asn ile Pro Pro Asp Glu Ile Asn Val ile Thr Glu Tyr Lys Glu
      225              230              235              240

```

His Phe Gly Phe Pro Tyr Val Phe Gly Lys Asn Gln Lys Asn Tyr Gly  
245 250 255

Phe Tyr Asn Lys Ala Pro Lys Asn Thr Lys Phe Ile Pro Ser Ile Tyr  
260 265 270

Glu Leu Pro Ala His Val Ala Pro Leu Gly Ile His Phe Tyr Arg Gly  
275 280 285

Asn Asn Phe Pro Lys Glu Tyr Ile Asn Lys Leu Phe Ile Ala Glu His  
290 295 300

Gly Ser Trp Asn Arg Ser Ser Pro Val Gly Tyr Lys Ile Thr Thr Leu  
305 310 315 320

Asp Ile Asp Ser Lys Thr Arg Thr Ala Arg Asn Tyr Lys Thr Phe Leu  
325 330 335

Tyr Gly Phe Leu Lys His Asp Lys Ser Lys Phe Gly Arg Pro Val Asp  
340 345 350

Ile Ile Thr Tyr Tyr Asp Gly Ser Ile Leu Phe Thr Asp Asp Phe Gly  
355 360 365

Asn Lys Ile Tyr Arg Val Tyr Tyr Glu Lys Ile  
370 375

<210> 77

<211> 352

<212> PRT

<213> Homo sapiens

<400> 77

Glu Ile Thr Ser Thr Leu Lys Val Pro Asn Gly Phe Lys Val Glu Ile  
1 5 10 15

Phe Leu Asn Asn Thr Ile Glu Lys Pro Arg Gly Ile Thr Ser Asp Gln  
20 25 30

Asp Gly Asn Ile Phe Ile Gly Ser Gly Ser Thr Phe Ala Tyr Phe Val  
35 40 45

Thr Lys Asn Arg Lys Ile Tyr Thr Ile Ala Lys Thr Leu Gln Lys Pro  
50 55 60

Ile Gly Ile Asp Tyr Trp Asp Asn Lys Leu Tyr Ile Ser Ser Val Asp  
65 70 75 80

Lys Ile Tyr Val Val Lys Asn Val Lys Glu Glu Ile Asn Lys Ser Ile  
85 90 95

Lys Ser His Lys Asp Tyr Thr Trp Lys Met Gln Ile Phe Ala Leu Leu  
100 105 110

Pro Lys Asn Asn Ser Gln Met His Ser Gly Arg Tyr Ile Lys Val Asp  
115 120 125

Ser Lys Asn Asn Lys Leu Ile Val Asn Ile Gly Ser Gln His Asn Val

130                      135                      140  
 Lys Ile Pro Pro Lys Lys Glu Ala Val Ile Leu Ser Ile Asn Leu Lys  
 145                      150                      155                      160  
 Thr Lys Lys Glu Glu Ile Val Ala Phe Gly Val Arg Asn Ser Val Gly  
                     165                      170                      175  
 Phe Asp Phe His Pro Ile Ser Asn Glu Ile Tyr Phe Ser Asp Asn Gly  
                     180                      185                      190  
 Gln Asp Gly Leu Gly Asp Asn Ile Pro Pro Asp Glu Ile Asn Val Ile  
                     195                      200                      205  
 Thr Glu Tyr Lys Glu His Phe Gly Phe Pro Tyr Val Phe Gly Lys Asn  
                     210                      215                      220  
 Gln Lys Asn Tyr Gly Phe Tyr Asn Lys Ala Pro Lys Asn Thr Lys Phe  
                     225                      230                      235                      240  
 Ile Pro Ser Ile Tyr Glu Leu Pro Ala His Val Ala Pro Leu Gly Ile  
                     245                      250                      255  
 His Phe Tyr Arg Gly Asn Asn Phe Pro Lys Glu Tyr Ile Asn Lys Leu  
                     260                      265                      270  
 Phe Ile Ala Glu His Gly Ser Trp Asn Arg Ser Ser Pro Val Gly Tyr  
                     275                      280                      285  
 Lys Ile Thr Thr Leu Asp Ile Asp Ser Lys Thr Arg Thr Ala Arg Asn  
                     290                      295                      300  
 Tyr Lys Thr Phe Leu Tyr Gly Phe Leu Lys His Asp Lys Ser Lys Phe  
                     305                      310                      315                      320  
 Gly Arg Pro Val Asp Ile Ile Thr Tyr Tyr Asp Gly Ser Ile Leu Phe  
                     325                      330                      335  
 Thr Asp Asp Phe Gly Asn Lys Ile Tyr Arg Val Tyr Tyr Glu Lys Ile  
                     340                      345                      350

&lt;210&gt; 78

&lt;211&gt; 1140

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 78

atgaaaaatc aattttttaa tagctatttt caattaatta caactatttt cttaattctca 60  
 tctataacta ttgcagcaga agaaataaca agcacactaa aagttcctaa tggattttaa 120  
 gtcgaaattt ttttaaaca tacaattgaa aaacctagag gaatcacaa cgatcaagat 180  
 ggaaatatat tcataggatc tggaagcact ttgcatact ttgtaacaaa aaacagaaaa 240  
 atttatacca tagcaaaaac cctgcaaaaa cctattggta ttgattattg ggataataaa 300  
 ctctacatat cttctgtcga taaaatatat gtagttaaaa atgtaaaaga agaaattaat 360  
 aaaagcataa aatcacataa agactataca tggaaaatgc aaatttttgc acttttgcca 420  
 aaaaataatt ctcaaatgca ctcaggacgt tacattaaag tagattctaa aaataacaaa 480

```

ttaatagtaa atataggatc ccagcacaat gttaaaattc ccccaaaaaa agaagcagta 540
atccttagta ttaattttaa aacaaaaaaa gaagaaatag tagcttttgg agtgagaaac 600
tcagttgggt ttgattttca cccaattagc aatgaaatat atttttagcg caatggccaa 660
gacggattag gagacaacat tccccagat gaaataaacg taataaccga atataaagaa 720
cattttggat ttccctatgt gtttgaaaaa aatcaaaaaa attacggttt ttataacaaa 780
gcacccaaaa acactaagtt tatcccatct atttacgaac ttcccgca ttagctcca 840
cttgaatac actttttaccg gggaaataac tttccaaaag aatacataaa taaattattc 900
atagcagaac acggctcgtg gaacagatct tctcctgttg gctacaaaat aacaacacta 960
gacattgatt ctaaaaccag aacagcaaga aattacaaga cttttttata tggattttta 1020
aagcacgaca aatctaaatt tggacgccct gttgatataa tcacatatta tgacggttca 1080
attcttttta cagatgactt tggaaataaa atatacagag tttactacga aaagatttaa 1140

```

&lt;210&gt; 79

&lt;211&gt; 1059

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 79

```

gaaataacaa gcacactaaa agttccta at ggatttaaag tcgaaatttt tttaaacaat 60
acaattgaaa aacctagagg aatcacagc gatcaagatg gaaatatatt cataggatct 120
ggaagcactt ttgcatactt tgtaacaaaa aacagaaaaa tttataccat agcaaaaacc 180
ctgcaaaaac ctattgggtat tgattattgg gataataaac tctacatata ttctgtcgat 240
aaaatatatg tagttaaaaa tgtaaaagaa gaaattaata aaagcataaa atcacataaa 300
gactatacat ggaaaatgca aatttttgca cttttgccaa aaaataattc tcaaatgcac 360
tcaggacggt acattaaagt agattctaaa aataacaaat taatagtaaa tataggatcc 420
cagcacaatg ttaaaattcc cccaaaaaaa gaagcagtaa tccttagtat taatttaaaa 480
acaaaaaaag aagaaatagt agcttttgga gtgagaaact cagttggggt tgattttcac 540
ccaattagca atgaaatata ttttagcgac aatggccaag acggattagg agacaacatt 600
ccccagatg aaataaacgt aataaccgaa tataaagaac attttggatt tccctatgtg 660
tttgaaaaaa atcaaaaaaa ttacggtttt tataacaaag cacccaaaaa cactaagttt 720
atcccatcta tttacgaact tcccgcatat gtagctccac ttggaataca cttttaccgg 780
ggaaataact ttccaaaaga atacataaat aaattattca tagcagaaca cggctcgtgg 840
aacagatctt ctctgttggt ctacaaaata acaacactag acattgattc taaaaccaga 900
acagcaagaa attacaagac ttttttatat ggatttttaa agcacgacaa atctaaattt 960
ggacgccctg ttgatataat cacatattat gacggttcaa ttctttttac agatgacttt 1020
ggaaataaaa tatacagagt ttactacgaa aagatttaa 1059

```

&lt;210&gt; 80

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 80

```

Met Asn Tyr Ala Arg Phe Ala Val Leu Ile Val Leu Leu Phe Phe Tyr
  1                      5                      10                      15

```

```

Ile Trp Phe Phe Ile Ile Leu Arg Met Lys Arg Thr Asn Leu Phe Leu
      20                      25                      30

```

```

Leu Glu Lys Ile Gln Asn Gly Ala Lys Ile Leu Asp Ile Arg Ser Pro
      35                      40                      45

```

```

Lys Glu Tyr Ser Lys Ser His Tyr Leu Lys Ser Ile Asn Ile Pro Phe
      50                      55                      60

```

```

Asn Asn Leu Phe Ala Lys Lys Asp Lys Leu Gly Asp Phe Glu Ser Pro
      65                      70                      75                      80

```



Ile Ile Val Tyr Gly Lys Ser Phe Asn Lys Ser Tyr Glu Ala Lys Lys  
85 90 95

Val Leu Lys Ser Met Gly Phe Lys Asn Val Phe Val Ala Gly Thr Leu  
100 105 110

Lys Asp Met Pro Gln Ala Lys Lys Glu Val Gly  
115 120

<210> 81

<211> 100

<212> PRT

<213> Homo sapiens

<400> 81

Arg Met Lys Arg Thr Asn Leu Phe Leu Leu Glu Lys Ile Gln Asn Gly  
1 5 10 15

Ala Lys Ile Leu Asp Ile Arg Ser Pro Lys Glu Tyr Ser Lys Ser His  
20 25 30

Tyr Leu Lys Ser Ile Asn Ile Pro Phe Asn Asn Leu Phe Ala Lys Lys  
35 40 45

Asp Lys Leu Gly Asp Phe Glu Ser Pro Ile Ile Val Tyr Gly Lys Ser  
50 55 60

Phe Asn Lys Ser Tyr Glu Ala Lys Lys Val Leu Lys Ser Met Gly Phe  
65 70 75 80

Lys Asn Val Phe Val Ala Gly Thr Leu Lys Asp Met Pro Gln Ala Lys  
85 90 95

Lys Glu Val Gly  
100

<210> 82

<211> 372

<212> DNA

<213> Homo sapiens

<400> 82

atgaattatg caagatttgc agtattaata gttctgcttt ttttttatat ttgggttttt 60  
attatcctta ggatgaaaag aactaatctg tttttgtag aaaaaatcca aaatggagca 120  
aaaatttttg atattcggtc tcccaaagaa tatagcaagt ctcattattt gaagtcaatt 180  
aacattcctt ttaataattt atttgctaaa aaggataaat taggtgattt tgagtcacca 240  
ataattgttt atggtaaaag ttttaataag tcttacgagg ctaaaaaagt tttaaaaagc 300  
atgggattta agaattgtgt tggtgctgga acctgaaag acatgccaca agcaaaaaaa 360  
gaagttgggt ga 372

<210> 83

<211> 303

<212> DNA

<213> Homo sapiens

<400> 83

aggatgaaaa gaactaatct gtttttgtag gaaaaaatcc aaaatggagc aaaaattttg 60  
gatattcggg ctcccaaaga atatagcaag tctcattatt tgaagtcaat taacattcct 120

```

tttaataatt tatttgctaa aaaggataaa ttaggtgatt ttgagtcgcc aataattgtt 180
tatggtaaaa gttttaataa gtcttacgag gctaaaaaag ttttaaaaag catgggattt 240
aagaatgtgt ttgttgctgg aaccttgaaa gacatgccac aagcaaaaaa agaagttggt 300
tga                                     303

```

<210> 84  
 <211> 204  
 <212> PRT  
 <213> Homo sapiens

```

<400> 84
Met Ile Lys Lys Phe Leu Leu Phe Ala Met Leu Asn Ile Phe Leu Thr
  1          5          10          15
Asn Lys Ala His Ser Asn Glu Glu Ile Ile Glu Ile Ser Thr Glu Ile
      20          25          30
Gln Lys Glu Lys Tyr Ile Pro Phe Leu Ile Ser Arg Gly Lys Thr Gln
      35          40          45
Leu Glu Asp Leu Val Lys Tyr Thr Leu Glu Ile Asn Pro Glu Leu Asp
      50          55          60
Lys Asn Tyr Val Asn Thr Val Ala Lys Thr Tyr Ile Asp Glu Ser Leu
      65          70          75          80
Ile Glu Gly Val Asn Tyr Asp Ile Ala Tyr Ala Gln Met Leu Leu Glu
      85          90          95
Thr Gly Ala Leu Lys Phe Asn Gly Ile Val Ser Lys Glu Gln His Asn
      100         105         110
Phe Ser Gly Ile Gly Ala Thr Asn Asn Leu Thr Lys Gly Asn Ser Phe
      115         120         125
Ser Asn Ile Thr Glu Gly Ile Lys Ala His Ile Gln His Leu Lys Ala
      130         135         140
Tyr Ala Ser Lys Gln Asn Ile Lys Ser Asn Met Val Asp Pro Arg Phe
      145         150         155         160
Tyr Leu Val Lys Arg Gly Ser Ala Pro Thr Ile Tyr Asp Leu Thr Gly
      165         170         175
Lys Trp Ala Lys Asp Lys Leu Tyr Asp Lys Lys Leu Lys Lys Ile Leu
      180         185         190
Leu Glu Leu Leu Glu Tyr Asn Asn Ala Asn Lys Ser
      195         200

```

<210> 85  
 <211> 183  
 <212> PRT  
 <213> Homo sapiens

```

<400> 85
Asn Glu Glu Ile Ile Glu Ile Ser Thr Glu Ile Gln Lys Glu Lys Tyr
  1          5          10          15

```

Ile Pro Phe Leu Ile Ser Arg Gly Lys Thr Gln Leu Glu Asp Leu Val  
                   20                  25                  30  
 Lys Tyr Thr Leu Glu Ile Asn Pro Glu Leu Asp Lys Asn Tyr Val Asn  
                   35                  40                  45  
 Thr Val Ala Lys Thr Tyr Ile Asp Glu Ser Leu Ile Glu Gly Val Asn  
                   50                  55                  60  
 Tyr Asp Ile Ala Tyr Ala Gln Met Leu Leu Glu Thr Gly Ala Leu Lys  
                   65                  70                  75                  80  
 Phe Asn Gly Ile Val Ser Lys Glu Gln His Asn Phe Ser Gly Ile Gly  
                   85                  90                  95  
 Ala Thr Asn Asn Leu Thr Lys Gly Asn Ser Phe Ser Asn Ile Thr Glu  
                   100                  105                  110  
 Gly Ile Lys Ala His Ile Gln His Leu Lys Ala Tyr Ala Ser Lys Gln  
                   115                  120                  125  
 Asn Ile Lys Ser Asn Met Val Asp Pro Arg Phe Tyr Leu Val Lys Arg  
                   130                  135                  140  
 Gly Ser Ala Pro Thr Ile Tyr Asp Leu Thr Gly Lys Trp Ala Lys Asp  
                   145                  150                  155                  160  
 Lys Leu Tyr Asp Lys Lys Leu Lys Lys Ile Leu Leu Glu Leu Leu Glu  
                   165                  170                  175  
 Tyr Asn Asn Ala Asn Lys Ser  
                   180

<210> 86  
 <211> 615  
 <212> DNA  
 <213> Homo sapiens

<400> 86  
 atgataaaaa aattcttgct atttgcaatg ctcaacatct ttttaacaaa taaagctcat 60  
 agtaatgaag agataatcga aataagtact gaaatacaaa aggaaaaata tattecccttt 120  
 ttaataagta gaggaaaaac tcaactagaa gaccttgtaa aatatactct agaaataaat 180  
 ccagagcttg acaaaaaacta tgtaaatact gttgctaaaa cctatataga cgaatctttg 240  
 attgaagggg ttaattatga cattgcctat gctcaaatgt tactagaaac aggagctcta 300  
 aaattcaatg gaatagtttc aaaagaacaa cacaattttt caggaatagg cgctactaat 360  
 aatcttacaa aaggaaattc tttttccaat attacagaag gaattaaagc tcatattcaa 420  
 catttaaaag cttatgcttc aaaacaaaat atcaaatcaa atatgggtga tcctagattt 480  
 taccttggtta aaagaggatc tgctccaaca atatatgatt tgactgggaa atgggcaaaa 540  
 gacaaacttt acgacaaaaa acttaaaaaa atattattag aactattaga atataataat 600  
 gcaaataaaa gctaa 615

<210> 87  
 <211> 552  
 <212> DNA  
 <213> Homo sapiens

<400> 87

```

aatgaagaga taatcgaaat aagtactgaa atacaaaagg aaaaatatat tcccttttta 60
ataagtagag gaaaaactca actagaagac cttgtaaaat atactctaga aataaatcca 120
gagcttgaca aaaactatgt aaatactgtt gctaaaacct atatagacga atctttgatt 180
gaaggggtta attatgacat tgctatgct caaatgttac tagaaacagg agctctaaaa 240
ttcaatggaa tagtttcaaa agaacaacac aatttttcag gaataggcgc tactaataat 300
cttacaaaag gaaattcttt ttccaatatt acagaaggaa ttaaagctca tattcaacat 360
ttaaaagctt atgcttcaaa acaaaatatt aaatcaaata tggttgatcc tagattttac 420
cttggttaaaa gaggatctgc tccaacaata tatgatttga ctgggaaatg ggcaaaagac 480
aaacttttacg acaaaaaact taaaaaaata ttattagaac tattagaata taataatgca 540
aataaaagct aa 552

```

<210> 88

<211> 482

<212> PRT

<213> Homo sapiens

<400> 88

```

Met Lys Leu Phe Arg Arg Asn Val Met Ile Lys Met Pro Ser Ser Phe
  1             5             10             15

```

```

Thr Ile Ile Phe Ser Leu Ile Val Phe Val Thr Ile Leu Thr Tyr Val
      20             25             30

```

```

Ile Pro Ala Gly Lys Phe Asp Lys Glu Phe Lys Gln Met Gly Asp Gly
      35             40             45

```

```

Ser Lys Arg Glu Ile Ile Val Ala Gly Thr Tyr Gln Tyr Val Asp Arg
      50             55             60

```

```

Gly Ser Arg Gly Phe Leu His Pro Ile Met Thr Ile Leu Thr Ala Met
      65             70             75             80

```

```

Ser Lys Gly Met Glu His Ala Val Glu Val Ile Val Phe Val Leu Ile
      85             90             95

```

```

Val Gly Gly Ala Tyr Gly Ile Ile Met Lys Thr Gly Ala Ile Asp Val
     100             105             110

```

```

Gly Ile Tyr Phe Leu Ile Lys Lys Leu Gly His Lys Asp Lys Leu Leu
     115             120             125

```

```

Ile Pro Leu Leu Met Phe Ile Phe Ser Ile Gly Gly Thr Val Thr Gly
     130             135             140

```

```

Met Ser Glu Glu Thr Leu Pro Phe Tyr Phe Val Met Ile Pro Leu Ile
     145             150             155             160

```

```

Val Ala Leu Gly Tyr Asp Ser Leu Val Gly Ala Ala Ile Ile Ala Leu
     165             170             175

```

```

Gly Ala Gly Val Gly Thr Met Ala Ser Thr Val Asn Pro Phe Ala Thr
     180             185             190

```

```

Gly Ile Ala Ser Ala Ile Ala Ser Ile Ser Leu Gln Asp Gly Phe Tyr
     195             200             205

```

```

Phe Arg Ile Val Leu Tyr Phe Val Ser Val Leu Ala Ala Ile Thr Tyr
     210             215             220

```

Val Cys Val Tyr Ala Ser Lys Ile Lys Lys Asp Pro Ser Lys Ser Leu  
225 230 235 240

Val Tyr Ser Gln Lys Asp Glu His Tyr Gln Tyr Phe Val Lys Lys Asp  
245 250 255

Gly Leu Ser Thr Gly Asp Asn Ala Gln Asn Ala Leu Glu Phe Thr Phe  
260 265 270

Ala His Lys Leu Val Leu Leu Leu Phe Gly Phe Met Ile Leu Ile Leu  
275 280 285

Ile Phe Ser Ile Val Asn Leu Gly Trp Trp Met Gln Glu Met Thr Met  
290 295 300

Leu Tyr Leu Gly Val Ala Ile Ile Ser Ala Phe Ile Cys Lys Leu Gly  
305 310 315 320

Glu Thr Glu Met Trp Asp Ala Phe Val Lys Gly Ser Glu Ser Leu Leu  
325 330 335

Thr Ala Ala Leu Val Ile Gly Leu Ala Arg Gly Val Met Ile Val Cys  
340 345 350

Asp Asp Gly Leu Ile Thr Asp Thr Met Leu Asn Ala Ala Thr Asn Phe  
355 360 365

Leu Tyr Asn Leu Pro Arg Pro Leu Phe Ile Ile Leu Asn Glu Ile Ile  
370 375 380

Gln Ile Phe Ile Gly Phe Val Val Pro Ser Ser Ser Gly His Ala Ser  
385 390 395 400

Leu Thr Met Pro Ile Met Ala Pro Leu Ala Asp Phe Leu Ser Ile Pro  
405 410 415

Arg Ala Ser Val Ile Ala Met Gln Thr Ala Ser Gly Leu Ile Asn  
420 425 430

Leu Ile Thr Pro Thr Ser Gly Val Ile Met Ala Val Leu Gly Ile Ser  
435 440 445

Arg Leu Ser Tyr Gly Thr Trp Phe Lys Phe Val Leu Pro Leu Phe Met  
450 455 460

Ile Glu Phe Phe Ile Ser Ile Leu Val Ile Ile Ala Asn Ile Tyr Leu  
465 470 475 480

Ser Phe

<210> 89

<211> 446

<212> PRT

<213> Homo sapiens

<400> 89

Lys Phe Asp Lys Glu Phe Lys Gln Met Gly Asp Gly Ser Lys Arg Glu  
 1 5 10 15  
 Ile Ile Val Ala Gly Thr Tyr Gln Tyr Val Asp Arg Gly Ser Arg Gly  
 20 25 30  
 Phe Leu His Pro Ile Met Thr Ile Leu Thr Ala Met Ser Lys Gly Met  
 35 40 45  
 Glu His Ala Val Glu Val Ile Val Phe Val Leu Ile Val Gly Gly Ala  
 50 55 60  
 Tyr Gly Ile Ile Met Lys Thr Gly Ala Ile Asp Val Gly Ile Tyr Phe  
 65 70 75 80  
 Leu Ile Lys Lys Leu Gly His Lys Asp Lys Leu Leu Ile Pro Leu Leu  
 85 90 95  
 Met Phe Ile Phe Ser Ile Gly Gly Thr Val Thr Gly Met Ser Glu Glu  
 100 105 110  
 Thr Leu Pro Phe Tyr Phe Val Met Ile Pro Leu Ile Val Ala Leu Gly  
 115 120 125  
 Tyr Asp Ser Leu Val Gly Ala Ala Ile Ile Ala Leu Gly Ala Gly Val  
 130 135 140  
 Gly Thr Met Ala Ser Thr Val Asn Pro Phe Ala Thr Gly Ile Ala Ser  
 145 150 155 160  
 Ala Ile Ala Ser Ile Ser Leu Gln Asp Gly Phe Tyr Phe Arg Ile Val  
 165 170 175  
 Leu Tyr Phe Val Ser Val Leu Ala Ala Ile Thr Tyr Val Cys Val Tyr  
 180 185 190  
 Ala Ser Lys Ile Lys Lys Asp Pro Ser Lys Ser Leu Val Tyr Ser Gln  
 195 200 205  
 Lys Asp Glu His Tyr Gln Tyr Phe Val Lys Lys Asp Gly Leu Ser Thr  
 210 215 220  
 Gly Asp Asn Ala Gln Asn Ala Leu Glu Phe Thr Phe Ala His Lys Leu  
 225 230 235 240  
 Val Leu Leu Leu Phe Gly Phe Met Ile Leu Ile Leu Ile Phe Ser Ile  
 245 250 255  
 Val Asn Leu Gly Trp Trp Met Gln Glu Met Thr Met Leu Tyr Leu Gly  
 260 265 270  
 Val Ala Ile Ile Ser Ala Phe Ile Cys Lys Leu Gly Glu Thr Glu Met  
 275 280 285  
 Trp Asp Ala Phe Val Lys Gly Ser Glu Ser Leu Leu Thr Ala Ala Leu  
 290 295 300  
 Val Ile Gly Leu Ala Arg Gly Val Met Ile Val Cys Asp Asp Gly Leu

305                      310                      315                      320  
 Ile Thr Asp Thr Met Leu Asn Ala Ala Thr Asn Phe Leu Tyr Asn Leu  
                                  325                      330                      335  
 Pro Arg Pro Leu Phe Ile Ile Leu Asn Glu Ile Ile Gln Ile Phe Ile  
                                  340                      345                      350  
 Gly Phe Val Val Pro Ser Ser Ser Gly His Ala Ser Leu Thr Met Pro  
                                  355                      360                      365  
 Ile Met Ala Pro Leu Ala Asp Phe Leu Ser Ile Pro Arg Ala Ser Val  
                                  370                      375                      380  
 Val Ile Ala Met Gln Thr Ala Ser Gly Leu Ile Asn Leu Ile Thr Pro  
 385                      390                      395                      400  
 Thr Ser Gly Val Ile Met Ala Val Leu Gly Ile Ser Arg Leu Ser Tyr  
                                  405                      410                      415  
 Gly Thr Trp Phe Lys Phe Val Leu Pro Leu Phe Met Ile Glu Phe Phe  
                                  420                      425                      430  
 Ile Ser Ile Leu Val Ile Ile Ala Asn Ile Tyr Leu Ser Phe  
                                  435                      440                      445

<210> 90

<211> 1449

<212> DNA

<213> Homo sapiens

<400> 90

atgaaattat ttaggagaaa cgttatgatac aaaatgccaa gtagttttac aataatattt 60  
 tctttaattg tatttggtac cattttaacg tatgtgattc ctgccggtta gtttgataaa 120  
 gaatttaagc aaatgggtga tggatctaaa agggaaataa ttgttgctgg aacttatcaa 180  
 tatgtagatc gaggtcttag gggattttta catcctatta tgactatttt aaccgcaatg 240  
 tcaaagggga tggacatgc agttgaagtt attgtttttg ttttaattgt tgggggtgct 300  
 tatgggatta ttatgaaaac tggagcaata gatgtgggaa tttatttttt aatcaagaag 360  
 ttggggcaca aagataagtt gcttattcct ttgttaattg ttattttttc aattgggtga 420  
 actgtaaccg gaatgagtga agagaccctt cctttttatt ttgttatgat tcccttgata 480  
 gtagctttgg gttatgatag tcttggttga gcggtctatta ttgctttagg agctggagtg 540  
 ggaactatgg cttctactgt aaatccattt gcgacaggaa ttgcatctgc aatagcttct 600  
 attagcttgc aggatggatt ttattttaga attgttcttt attttgtatc agtattggct 660  
 gctataacct atgttttgtt ttatgcgtct aaaattaaaa aggatccctc aaaatcgctt 720  
 gtgtattctc aaaaagatga acattatcaa tattttgtta aaaaagatgg actttctacc 780  
 ggagataatg ctcagaatgc tcttgagttt acttttgcct ataaattagt tttactttta 840  
 tttggattta tgatattgat tttgatattt agcattgtta atcttggttg gtggatgcaa 900  
 gaaatgacaa tgttgtatct tggagttgct attatatcgg cttttatttg taaattaggt 960  
 gaaactgaaa tgtgggatgc gtttgtgaaa gggtctgaaa gtctgctaac cgtgtctctt 1020  
 gttattggac ttgctagagg tgttatgata gtatgtgatg atgggttgat tacagatact 1080  
 atgttaaatg ctgctactaa ttttttatac aatcttccaa gacctctttt tatcatattg 1140  
 aatgaaatta ttcaaatatt tataggattt gttgttccat cttcatcagg acatgctagt 1200  
 ctcactatgc caataatggc tcctcttgcc gattttttgt caattccaag agcttcagtt 1260  
 gttattgcc a tgcagactgc atctgggctt attaatgtga taacacctac cagcggagtt 1320  
 ataattggctg tattggggat atccagattg agttatggta cgtgggttaa gtttgtttta 1380  
 ccattattta tgattgagtt ttttatctct atttttagtta ttatagctaa catttattta 1440  
 agtttttag

<210> 91  
 <211> 1341  
 <212> DNA  
 <213> Homo sapiens

<400> 91  
 aagtttgata aagaatttaa gcaaatgggt gatggatcta aaagggaaat aattgttgct 60  
 ggaacttatc aatatgtaga tgcaggctct aggggatttt tacatcctat tatgactatt 120  
 ttaaccgcaa tgtcaaaggg gatggaacat gcagttgaag ttattgtttt tgttttaatt 180  
 gttgggggtg cttatgggat tattatgaaa actggagcaa tagatgtggg aatttatttt 240  
 ttaatcaaga agttggggca caaagataag ttgcttattc ctttggttaat gtttattttt 300  
 tcaattgggtg gaactgtaac cggaatgagt gaagagaccc ttccttttta ttttgttatg 360  
 attcccttga tagtagcttt gggttatgat agtcttggtg gagcggctat tattgcttta 420  
 ggagctggag tgggaactat ggcttctact gtaaatccat ttgcgacagg aattgcatct 480  
 gcaatagctt ctattagctt gcaggatgga ttttatttta gaattgttct ttattttgta 540  
 tcagtattgg ctgctataac ctatgtttgt gtttatgctg ctaaaattaa aaaggatccc 600  
 tcaaaatcgc ttgtgtattc tcaaaaagat gaacattatc aatattttgt taaaaaagat 660  
 ggactttcta ccggagataa tgctcagaat gctcttgagt ttacttttgc tcataaatta 720  
 gttttacttt tatttggatt tatgatattg attttgatat ttagcattgt taatcttggt 780  
 tgggtggatgc aagaaatgac aatgttgtat cttggagttg ctattatata ggcttttatt 840  
 tgtaaaattag gtgaaactga aatgtgggat gcgtttgtga aaggttctga aagtctgcta 900  
 accgctgctc ttgttattgg acttgctaga ggtgttatga tagtatgtga tgatgggttg 960  
 attacagata ctatgttaaa tgctgctact aattttttat acaatcttcc aagacccctt 1020  
 tttatcatat tgaatgaaat tattcaaata tttataggat ttgttggtcc atcttcatca 1080  
 ggacatgcta gtctcactat gccaaataatg gctcctcttg ccgatttttt gtcaattcca 1140  
 agagcttcag ttgttattgc catgcagact gcattctggg ttattaattt gataacacct 1200  
 accagcggag ttataatggc tgtattgggg atatccagat tgagttatgg tacgtgggtt 1260  
 aagtttggtt taccattatt tatgattgag ttttttatct ctattttagt tattatagct 1320  
 aacattttatt taagttttta g 1341

<210> 92  
 <211> 469  
 <212> PRT  
 <213> Homo sapiens

<400> 92  
 Met Lys Tyr Phe Tyr Phe Leu Phe Phe Leu Ile Phe Asn Val Tyr  
 1 5 10 15  
 Ala Gln Asn Val Asn Ser Pro Ala Leu Pro Ser Pro Pro Leu Leu Pro  
 20 25 30  
 Glu Ile Thr Glu Asn Lys Pro Val Glu Arg Glu Asn Ser Ser Lys Gly  
 35 40 45  
 Glu Asn Phe Ser Asn Val Gly Leu Asp Gly Lys Tyr Val Asn Asp Thr  
 50 55 60  
 Ile Leu Tyr Gly Leu Asp Ser Gln Val Thr Ser Ile Ile Lys Ala Leu  
 65 70 75 80  
 Lys Lys Ser Ser Asp Ser Gln Tyr Asn Phe Ser Leu Lys Lys Arg Leu  
 85 90 95  
 Glu Lys Thr Phe Asn Ala Glu Leu Lys Arg Glu Ile Leu Glu Leu Phe  
 100 105 110  
 Ile Ser Leu Lys Tyr Ser Gly Gly Ile Asp Thr Ala Asn Tyr Ile Leu



115	120	125
Glu Asn Tyr Glu Ser Lys Arg Tyr Ser Asn Ala Leu Phe Gly Leu Ala 130 135 140		
Ile Ser Tyr Leu Lys Glu Phe Asp Asp Lys Glu Lys Leu Lys Lys Thr 145 150 155 160		
Leu Ile Asp Ile Leu Glu Asn Lys Glu Gly Asn Val Val Ser Ile Ala 165 170 175		
Ala Tyr Tyr Leu Gly Glu Leu Asn Ser Leu Glu Tyr Ser Lys Asn Met 180 185 190		
Met Glu Val Phe Glu Lys Tyr Ser Gly Asn Asp Gly Ala Arg Arg Glu 195 200 205		
Ile Leu Ile Ala Leu Gly Lys Met Ser Ala Val Asp Tyr Gln Asp Arg 210 215 220		
Ile Tyr Glu Ile Ser Leu Asp Asn Tyr Glu Gly Pro Ser Ile Lys Ala 225 230 235 240		
Ala Ala Ile Glu Ala Leu Ser Tyr Leu Ala Ser Asp Lys Val Thr Glu 245 250 255		
Asn Ala Asp Leu Tyr Leu Gln Ser Asn Asn Asn Asn Leu Asn Val Lys 260 265 270		
Leu Ala Ile Ile Ala Ser Leu Ser Lys Asp Pro Ser Leu Lys Ser Lys 275 280 285		
Glu Ile Leu Gln Gly Phe Leu Arg Asp Ser Asp Asp Asn Ile Arg Phe 290 295 300		
Lys Ala Ile Asn Ala Ile Lys Gly His Arg Asp Ser Ser Ala Lys Asp 305 310 315 320		
Ile Leu Ile Tyr Lys Leu Lys Ser Asp Pro Ser Leu Lys Val Arg Glu 325 330 335		
Ala Ser Ala Lys Ala Leu Ile Asp Met Asp Leu Gly Asn Ile Glu Ile 340 345 350		
Lys Asn Ile Met Phe Asp Phe Lys Ile Asp Asn Asn Phe Lys Ile Ser 355 360 365		
Met Phe Ser Tyr Leu Leu Asp Lys Asp Ser Leu Lys Ala Leu Ser Ile 370 375 380		
Ala Leu Glu Ile Val Asn Lys Glu Asn Ile Asn Arg Pro Ser Asn Val 385 390 395 400		
Leu Arg Gly Val Ala Ser Met Leu Ala Gly Lys Lys Gly Asn Phe Asp 405 410 415		
Asn Phe Tyr Ser Lys Ile Ile Asp Ser Lys Asn Ile Asp Leu Arg His 420 425 430		

Leu Ala Leu Lys Gly Ala Val Tyr Asn Lys Ser Ser Ser Leu Ser Asp  
 435 440 445

Lys Leu Lys Lys Ile Lys Ser Glu Thr Asn Ser Glu Tyr Ile Lys Met  
 450 455 460

Leu Leu Lys Asp Tyr  
 465

<210> 93

<211> 445

<212> PRT

<213> Homo sapiens

<400> 93

Leu Pro Ser Pro Pro Leu Leu Pro Glu Ile Thr Glu Asn Lys Pro Val  
 1 5 10 15

Glu Arg Glu Asn Ser Ser Lys Gly Glu Asn Phe Ser Asn Val Gly Leu  
 20 25 30

Asp Gly Lys Tyr Val Asn Asp Thr Ile Leu Tyr Gly Leu Asp Ser Gln  
 35 40 45

Val Thr Ser Ile Ile Lys Ala Leu Lys Lys Ser Ser Asp Ser Gln Tyr  
 50 55 60

Asn Phe Ser Leu Lys Lys Arg Leu Glu Lys Thr Phe Asn Ala Glu Leu  
 65 70 75 80

Lys Arg Glu Ile Leu Glu Leu Phe Ile Ser Leu Lys Tyr Ser Gly Gly  
 85 90 95

Ile Asp Thr Ala Asn Tyr Ile Leu Glu Asn Tyr Glu Ser Lys Arg Tyr  
 100 105 110

Ser Asn Ala Leu Phe Gly Leu Ala Ile Ser Tyr Leu Lys Glu Phe Asp  
 115 120 125

Asp Lys Glu Lys Leu Lys Lys Thr Leu Ile Asp Ile Leu Glu Asn Lys  
 130 135 140

Glu Gly Asn Val Val Ser Ile Ala Ala Tyr Tyr Leu Gly Glu Leu Asn  
 145 150 155 160

Ser Leu Glu Tyr Ser Lys Asn Met Met Glu Val Phe Glu Lys Tyr Ser  
 165 170 175

Gly Asn Asp Gly Ala Arg Arg Glu Ile Leu Ile Ala Leu Gly Lys Met  
 180 185 190

Ser Ala Val Asp Tyr Gln Asp Arg Ile Tyr Glu Ile Ser Leu Asp Asn  
 195 200 205

Tyr Glu Gly Pro Ser Ile Lys Ala Ala Ala Ile Glu Ala Leu Ser Tyr  
 210 215 220

Leu Ala Ser Asp Lys Val Thr Glu Asn Ala Asp Leu Tyr Leu Gln Ser  
 225 230 235 240  
 Asn Asn Asn Asn Leu Asn Val Lys Leu Ala Ile Ile Ala Ser Leu Ser  
 245 250 255  
 Lys Asp Pro Ser Leu Lys Ser Lys Glu Ile Leu Gln Gly Phe Leu Arg  
 260 265 270  
 Asp Ser Asp Asp Asn Ile Arg Phe Lys Ala Ile Asn Ala Ile Lys Gly  
 275 280 285  
 His Arg Asp Ser Ser Ala Lys Asp Ile Leu Ile Tyr Lys Leu Lys Ser  
 290 295 300  
 Asp Pro Ser Leu Lys Val Arg Glu Ala Ser Ala Lys Ala Leu Ile Asp  
 305 310 315 320  
 Met Asp Leu Gly Asn Ile Glu Ile Lys Asn Ile Met Phe Asp Phe Lys  
 325 330 335  
 Ile Asp Asn Asn Phe Lys Ile Ser Met Phe Ser Tyr Leu Leu Asp Lys  
 340 345 350  
 Asp Ser Leu Lys Ala Leu Ser Ile Ala Leu Glu Ile Val Asn Lys Glu  
 355 360 365  
 Asn Ile Asn Arg Pro Ser Asn Val Leu Arg Gly Val Ala Ser Met Leu  
 370 375 380  
 Ala Gly Lys Lys Gly Asn Phe Asp Asn Phe Tyr Ser Lys Ile Ile Asp  
 385 390 395 400  
 Ser Lys Asn Ile Asp Leu Arg His Leu Ala Leu Lys Gly Ala Val Tyr  
 405 410 415  
 Asn Lys Ser Ser Ser Leu Ser Asp Lys Leu Lys Lys Ile Lys Ser Glu  
 420 425 430  
 Thr Asn Ser Glu Tyr Ile Lys Met Leu Leu Lys Asp Tyr  
 435 440 445

&lt;210&gt; 94

&lt;211&gt; 1410

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 94

atgaaataact tttattttttt attttttttta cttatttttta atgtgtatgc tcaaaatgtt 60  
 aattctccag ctcttcttag tccgcctttg ttgcccga aa ttacagaaaa taagcctgtt 120  
 gagagagaaa attcttctaa gggagagaat ttttcta atg ttggtttaga tggtaagtat 180  
 gttaacgata caattcttta tgggcttgat agtcaagtga caagcattat aaaagctctt 240  
 aaaaaatcaa gcgatagtca atataatttt tctcttaaaa aaagacttga gaaaactttt 300  
 aatgctgagc ttaaaaaggga aatacttgaa ttgtttattt ctcttaagta ttcggggggc 360  
 attgatacag caaattatat tcttgaaaaa tatgagagta aaagatatct aaacgcttta 420  
 tttggcttgg caatttcgta tcttaaggag tttgatgata aagaaaaatt aaaaaaaact 480  
 cttattgaca ttcttgaaaa taaagagggc aatgtggtat ctattgcagc ttattattta 540  
 ggagagctta attctcttga gtattctaaa aacatgatgg aagtttttga aaaatattct 600

```

ggaaatgatg gggctagaag agaaatactt attgctcttg gaaaaatgtc cgctgttgat 660
tattcaggata gaatttatga aatttcgcta gataattacg agggcccatc aattaaggct 720
gctgcaatcg aagcgttgct atattcttgc tcagataaag taactgaaaa tgctgatttg 780
tatcttcaga gtaataacaa taatttaaat gttaaattag ctattattgc ttctttgtcc 840
aaagatcctt ctttaaagtc taaagagatt ttacaaggat ttttaagaga ttctgatgat 900
aatattaggt ttaaagctat taatgcaatc aaaggacata gggactcttc tgcaaaggat 960
atcttgattt ataagcttaa aagcgatcca tctcttaaag ttagggaggc ttctgctaag 1020
gccttaattg atatggatct tgggaatatt gagataaaaa acattatggt tgattttaag 1080
attgacaata attttaaaat ttcaatgttt agttaccttt tagataagga ttctctaaaa 1140
gcattgtcaa ttgctttaga aattgttaat aaagaaaaata ttaatagacc ctcaaatggt 1200
ttaaggggcg ttgcttcaat gttggctggt aaaaagggtt attttgataa tttttattct 1260
aaaatcattg acagcaaaaa tattgattta aggcatttag cattaaaagg agctgtttat 1320
aataaatctt catcgctttc tgataagctt aaaaaatta aaagtgaac gaactccgaa 1380
tatattaaaa tgcttttaaa agattattga 1410

```

<210> 95  
 <211> 1338  
 <212> DNA  
 <213> Homo sapiens

```

<400> 95
cttcctagtc cgcctttgtt gcccgaaatt acagaaaata agcctgttga gagagaaaat 60
tcttctaagg gagagaattt ttctaattgt ggttttagatg gtaagtatgt taacgataca 120
attctttatg ggcttgatag tcaagtgaca agcattataa aagctcttaa aaaatcaagc 180
gatagtcaat ataatttttc tcttaaaaaa agacttgaga aaacttttaa tgctgagctt 240
aaaagggaaa tacttgaatt gtttatttct ctttaagtatt cggggggcat tgatacagca 300
aattatattc ttgaaaatta tgagagtaaa agatattcaa acgctttatt tggcttgcca 360
atttcgtatc ttaaggagtt tgatgataaa gaaaaattaa aaaaaactct tattgacatt 420
cttgaaaata aagagggcaa tgtggatatc attgcagctt attatttagg agagcttaat 480
tctcttgagt attctaaaaa catgatggaa gtttttgaaa aatattctgg aaatgatggg 540
gctagaagag aaatacttat tgctcttgga aaaatgtccg ctggttgatta tcaggataga 600
atcttatgaaa ttctgctaga taattacgag ggcccatcaa ttaaggctgc tgcaatcgaa 660
gcgttgctat atcttgcttc agataaagta actgaaaatg ctgatttgta tcttcagagt 720
aataacaata atttaaatgt taaattagct attattgctt etttgtccaa agatccttct 780
ttaaagtcta aagagatttt acaaggattt ttaagagatt ctgatgataa tattaggttt 840
aaagctatta atgcaatcaa aggacatagg gactcttctg caaaggatat tttgatttat 900
aagcttaaaa gcgatccatc tcttaaggtt agggaggcct ctgctaaggc cttaattgat 960
atggatcttg ggaatattga gataaaaaac attatgtttg attttaagat tgacaataat 1020
tttaaaattt caatgttttag ttacctttta gataaggatt ctctaaaagc attgtcaatt 1080
gctttagaaa ttgttaataa agaaaatatt aatagaccct caaatgtttt aaggggctgt 1140
gcttcaatgt tggctggtaa aaagggtaat tttgataatt tttattctaa aatcattgac 1200
agcaaaaaata ttgatttaag gcatttagca ttaaaaggag ctgtttataa taaatcttca 1260
tcgctttctg ataagcttaa aaaaattaaa agtgaaacga actccgaata tattaataatg 1320
cttttaaaag attattga 1338

```

<210> 96  
 <211> 506  
 <212> PRT  
 <213> Homo sapiens

```

<400> 96
Met Lys Phe Val Leu Asn Asn Leu Phe Lys Gly Cys Leu Ile Cys Phe
 1           5           10          15
Phe Leu Phe Phe Ser Cys Leu Thr Thr Asp Arg Ser Ile Gln Asp Ser
          20          25          30
His Ile Ser Asp Ile Val Glu Lys Lys Lys Glu Ala Val Ile Ile Asp

```

35					40					45					
Asp	Asn	Asn	Val	Val	Leu	Gly	Ser	Asn	Glu	Gly	Lys	Phe	Lys	Arg	Asp
50						55					60				
Tyr	Leu	Ile	Gly	Leu	Lys	Asp	Asn	Glu	Ser	Phe	Phe	Leu	Ser	Asp	Ala
65					70					75					80
Phe	Leu	Lys	Glu	Asn	Asn	Phe	Tyr	Phe	Lys	Lys	Ala	Arg	Glu	Ser	Tyr
				85					90					95	
Ala	Lys	Lys	Asn	Ile	Gly	Leu	Thr	Asn	Tyr	Tyr	Leu	Asn	Lys	Ile	Val
			100					105					110		
Thr	Asn	Glu	Asn	Gln	His	Ser	Arg	Glu	Leu	Leu	Ala	Lys	Ala	Asn	Leu
	115						120					125			
Phe	Phe	Gly	Tyr	Val	Asn	Tyr	Glu	Asn	Gly	Phe	Tyr	Asp	Leu	Ser	Glu
	130					135					140				
Tyr	Asn	Phe	Asp	Leu	Phe	Leu	Lys	Asp	Tyr	Lys	Tyr	Ser	His	Ala	Ser
145					150					155					160
Leu	Arg	Leu	Ala	Glu	Leu	Lys	Tyr	Leu	Val	Lys	Glu	Lys	Ser	Asp	Ala
				165					170					175	
Ile	Ser	Ala	Phe	Lys	Glu	Ile	Asn	Glu	Phe	Ser	Ile	Ser	Gly	Tyr	Asp
		180						185					190		
Arg	Glu	Ile	Tyr	Gly	Phe	Leu	Ser	Asn	Lys	Leu	Gly	Val	Ser	His	Leu
	195						200					205			
Asn	Leu	Glu	Ser	Leu	Gly	Phe	Leu	Asp	Asn	Ser	Val	Phe	Asp	Thr	Phe
	210					215					220				
Val	Phe	Asn	Asp	Asn	Ile	Phe	Val	Thr	Asn	Ile	Leu	Gly	Gly	Leu	Leu
225					230					235					240
Arg	Tyr	Asn	Ile	Lys	Lys	Asn	Asp	Cys	Arg	Val	Tyr	Leu	Lys	Asp	Lys
				245					250					255	
Lys	Ser	Ile	Phe	Leu	Asn	Gly	Ile	Arg	Gly	Phe	Ala	Asp	Tyr	Asn	Gly
			260					265					270		
Thr	Ile	Tyr	Ile	Gly	Gly	Lys	Asn	Val	Val	Tyr	Tyr	Ile	Asp	Asp	Val
	275						280					285			
Asp	Gly	Asp	Leu	Lys	Gln	Ile	Asn	Val	Pro	Gly	Asn	Ala	Asp	Phe	Ser
	290					295					300				
Asn	Val	Gln	Val	Leu	Leu	Ala	Val	Lys	Asn	Gly	Ile	Phe	Val	Gly	Thr
305					310					315					320
Leu	Asn	Ser	Gly	Leu	Trp	Phe	Tyr	Asp	Leu	Lys	Asn	Trp	Lys	Asn	Ile
				325					330					335	
Pro	Leu	Gly	Ser	Asn	Lys	Ile	Ser	Ser	Leu	Cys	Phe	Asp	Ser	Leu	Lys
			340					345					350		

Asn Leu Leu Leu Val Gly Thr Val Asp Lys Ala Ile Tyr Ser Val Asn  
 355 360 365

Val Asp Asn Leu Lys Lys Ile Glu His Leu Asp Phe Phe Ser Lys Asn  
 370 375 380

Asp Asn Glu Lys Asn Ile Asn Phe Ile Lys Glu Tyr Lys Asp Ser Tyr  
 385 390 395 400

Phe Val Gly Thr Tyr Gly Gly Gly Leu Phe Glu Leu Asn Leu Asn Lys  
 405 410 415

Asn Ser Tyr Lys Lys His Val Ile Ala Asn Asn Ile Asp Val Asn Tyr  
 420 425 430

Phe Met Asp Met Glu Ile Lys Asp Lys Lys Leu Leu Phe Ala Thr Phe  
 435 440 445

Asp His Gly Leu Leu Ile Tyr Asp Ser Glu Asn Asp Asn Trp Asp Tyr  
 450 455 460

Phe Gly Pro Asn Asn Gly Leu Leu Asn Leu Asn Leu Ile Lys Val Ser  
 465 470 475 480

Arg Phe Glu Asn Tyr Val Ile Leu Gly Thr Ile Asn Asn Gly Leu Val  
 485 490 495

Phe Val Asp Glu Asn Ile Lys Lys Gln Leu  
 500 505

<210> 97

<211> 485

<212> PRT

<213> Homo sapiens

<400> 97

Cys Leu Thr Thr Asp Arg Ser Ile Gln Asp Ser His Ile Ser Asp Ile  
 1 5 10 15

Val Glu Lys Lys Lys Glu Ala Val Ile Ile Asp Asp Asn Asn Val Val  
 20 25 30

Leu Gly Ser Asn Glu Gly Lys Phe Lys Arg Asp Tyr Leu Ile Gly Leu  
 35 40 45

Lys Asp Asn Glu Ser Phe Phe Leu Ser Asp Ala Phe Leu Lys Glu Asn  
 50 55 60

Asn Phe Tyr Phe Lys Lys Ala Arg Glu Ser Tyr Ala Lys Lys Asn Ile  
 65 70 75 80

Gly Leu Thr Asn Tyr Tyr Leu Asn Lys Ile Val Thr Asn Glu Asn Gln  
 85 90 95

His Ser Arg Glu Leu Leu Ala Lys Ala Asn Leu Phe Phe Gly Tyr Val  
 100 105 110

Asn Tyr Glu Asn Gly Phe Tyr Asp Leu Ser Glu Tyr Asn Phe Asp Leu  
 115 120 125  
 Phe Leu Lys Asp Tyr Lys Tyr Ser His Ala Ser Leu Arg Leu Ala Glu  
 130 135 140  
 Leu Lys Tyr Leu Val Lys Glu Lys Ser Asp Ala Ile Ser Ala Phe Lys  
 145 150 155 160  
 Glu Ile Asn Glu Phe Ser Ile Ser Gly Tyr Asp Arg Glu Ile Tyr Gly  
 165 170 175  
 Phe Leu Ser Asn Lys Leu Gly Val Ser His Leu Asn Leu Glu Ser Leu  
 180 185 190  
 Gly Phe Leu Asp Asn Ser Val Phe Asp Thr Phe Val Phe Asn Asp Asn  
 195 200 205  
 Ile Phe Val Thr Asn Ile Leu Gly Gly Leu Leu Arg Tyr Asn Ile Lys  
 210 215 220  
 Lys Asn Asp Cys Arg Val Tyr Leu Lys Asp Lys Lys Ser Ile Phe Leu  
 225 230 235 240  
 Asn Gly Ile Arg Gly Phe Ala Asp Tyr Asn Gly Thr Ile Tyr Ile Gly  
 245 250 255  
 Gly Lys Asn Val Val Tyr Tyr Ile Asp Asp Val Asp Gly Asp Leu Lys  
 260 265 270  
 Gln Ile Asn Val Pro Gly Asn Ala Asp Phe Ser Asn Val Gln Val Leu  
 275 280 285  
 Leu Ala Val Lys Asn Gly Ile Phe Val Gly Thr Leu Asn Ser Gly Leu  
 290 295 300  
 Trp Phe Tyr Asp Leu Lys Asn Trp Lys Asn Ile Pro Leu Gly Ser Asn  
 305 310 315 320  
 Lys Ile Ser Ser Leu Cys Phe Asp Ser Leu Lys Asn Leu Leu Leu Val  
 325 330 335  
 Gly Thr Val Asp Lys Ala Ile Tyr Ser Val Asn Val Asp Asn Leu Lys  
 340 345 350  
 Lys Ile Glu His Leu Asp Phe Phe Ser Lys Asn Asp Asn Glu Lys Asn  
 355 360 365  
 Ile Asn Phe Ile Lys Glu Tyr Lys Asp Ser Tyr Phe Val Gly Thr Tyr  
 370 375 380  
 Gly Gly Gly Leu Phe Glu Leu Asn Leu Asn Lys Asn Ser Tyr Lys Lys  
 385 390 395 400  
 His Val Ile Ala Asn Asn Ile Asp Val Asn Tyr Phe Met Asp Met Glu  
 405 410 415  
 Ile Lys Asp Lys Lys Leu Leu Phe Ala Thr Phe Asp His Gly Leu Leu

420 425 430

Ile Tyr Asp Ser Glu Asn Asp Asn Trp Asp Tyr Phe Gly Pro Asn Asn  
435 440 445

Gly Leu Leu Asn Leu Asn Leu Ile Lys Val Ser Arg Phe Glu Asn Tyr  
450 455 460

Val Ile Leu Gly Thr Ile Asn Asn Gly Leu Val Phe Val Asp Glu Asn  
465 470 475 480

Ile Lys Lys Gln Leu  
485

<210> 98  
<211> 1521  
<212> DNA  
<213> Homo sapiens

<400> 98

atgaaatttg	ttttgaataa	tttattttaa	ggttgtctta	tatgtttttt	cttgtttttt	60
tcctgcctta	ctacagatag	atctattcaa	gattctcata	ttagtgatat	tgtagagaag	120
aaaaaagaag	cagtcattat	tgatgataat	aatgttggtc	ttgggagtaa	tgagggtaaa	180
tttaaaagag	actatttgat	aggattaaaa	gataatgaat	ctttttttct	tagtgatgct	240
tttttaaaaag	aaaataattt	ttatttttaa	aaagccaggg	aaagttatgc	taaaaaaaaat	300
attggcctga	caaattatta	tttgaataaa	atagtaacta	atgagaatca	gcacagcaga	360
gaattgctag	ctaaagcgaa	tttggttttt	ggatatgtaa	attatgagaa	tggtttttat	420
gatctttccg	aatataattt	tgatctattt	ttaaaagact	ataaatattc	tcatgctagt	480
ttaagattag	ctgaattaaa	atatcttggt	aaagaaaaat	ctgatgcaat	ttctgcattt	540
aaagagatta	atgaattttc	tatctcaggt	tatgatagag	agattttatg	ctttttaagt	600
aataaacttg	gagtaagtca	tttaaactta	gagtcttttag	gatttcttga	caacagcggt	660
tttgatacat	ttgtctttta	tgacaatata	tttgtaacta	atatattggg	agggctttta	720
agatataata	ttaaaaaaa	tgattgtaga	gtctatctta	aggataaaaa	aagcattttt	780
ttaaatggca	ttaggggttt	tgccgattat	aatggaacaa	tttatattgg	tggtaaaaat	840
gttggtttatt	atatagatga	tggtgatggg	gattttaaagc	aaataaatgt	tcccggtaat	900
gctgatttta	gcaatgtaca	agttttgctt	gctgttaaaa	atggaatatt	tggtggcact	960
ctaaattctg	gattatgggt	ttatgattta	aaaaattgga	aaaatatacc	gcttggatct	1020
aataaaaattt	cttcaactctg	ctttgatagt	ttaaaaaatt	tattattagt	tggaacagtt	1080
gacaaggcta	tttatagtgt	taatgtcgat	aatttgaaaa	agattgaaca	tttggttttt	1140
tttagcaaaa	atgataatga	aaaaaatatt	aattttataa	aagaatataa	agatagttat	1200
tttggtggaa	catatgggtg	gggtcttttt	gaattaaatt	taaataaaaa	tagttacaaa	1260
aagcacgtta	ttgccaataa	tattgatggt	aattatttta	tggatatgga	gattaaagat	1320
aaaaagctat	tgtttgcaac	ctttgatcat	gggttattga	tttatgattc	tgaaaaatgac	1380
aactgggatt	attttggaac	caataatggg	cttcttaatt	tgaatttaat	aaaagtttct	1440
agatttgaaa	attatgtcat	actgggcact	attaataacg	gtttggtttt	tgtagatgaa	1500
aatattaaaa	aacagttatg	a				1521

<210> 99  
<211> 1458  
<212> DNA  
<213> Homo sapiens

<400> 99

tgccttacta	cagatagatc	tattcaagat	tctcatatta	gtgatattgt	agagaagaaa	60
aaagaagcag	tcattattga	tgataataat	gttggtcttg	ggagtaatga	gggtaaattt	120
aaaagagact	atttgatagg	attaaaagat	aatgaatctt	ttttcttag	tgatgctttt	180
ttaaaagaaa	ataattttta	ttttaaaaaa	gccagggaaa	gttatgctaa	aaaaaatatt	240
ggcttgacaa	attattattt	gaataaaaata	gtaactaatg	agaatcagca	cagcagagaa	300



```

ttgctagcta aagcgaatgt gtttttttga tatgtaaatt atgagaatgg tttttatgat 360
ctttccgaat ataattttga tctattttta aaagactata aatattctca tgctagttaa 420
agattagctg aattaaaata tcttggttaa gaaaaatctg atgcaatttc tgcatttaaa 480
gagattaatg aattttctat ctcagggttat gatagagaga tttatggctt ttttaagtaat 540
aaacttggag taagtcatgt aaacttagag tcttttaggat ttcttgacaa cagcgttttt 600
gatacatttg tctttaatga caatatatgt gtaactaata tattgggagg gcttttaaga 660
tataatatta aaaaaaatga ttgtagagtc tatcttaagg ataaaaaaag catTTTTTTT 720
aatggcatta ggggtttttg ggattataat ggaacaatgt atattggtgg taaaaatgtt 780
gtttattata tagatgatgt tgatggggat ttaaagcaaa taaatgttcc cggtaatgct 840
gatttttagca atgtacaagt tttgcttgct gttaaaaatg gaatatattgt tggcactcta 900
aattctggat tatgggtttta tgatttaaaa aattggaaaa atataccgct tggatctaatt 960
aaaattttctt cactctgctt tgatagttaa aaaaatttat tattagtgtg aaagttgac 1020
aaggctattt atagtgttaa tgctcgataat ttgaaaaaga ttgaacattt ggattttttt 1080
agcaaaaatg ataataaaaa aaatattaat tttataaaaag aatataaaaga tagttatttt 1140
gttggaaacat atggtggggg tcttttttga ttaaatttaa ataaaaatag ttacaaaaag 1200
cacgttattg ccaataatat tgatgttaat tattttatgg atatggagat taaagataaa 1260
aagctattgt ttgcaacctt tgatcatggg ttattgattt atgattctga aaatgacaac 1320
tgggattatt ttggacccaa taatgggctt cttaatttga atttaataaa agtttctaga 1380
tttgaaaatt atgtcatact gggcactatt aataacgggt tggtttttgt agatgaaaat 1440
ataaaaaaac agttatga 1458

```

<210> 100

<211> 207

<212> PRT

<213> Homo sapiens

<400> 100

Met His Ile Phe Lys Asn Val Pro Phe Gln Ile Asn Leu Ile Leu Phe  
1 5 10 15

Leu Leu Val Ser Val Ala Lys Ile Asn Ala Ser Ser Lys Phe Tyr Tyr  
20 25 30

Ala Glu Gln Trp Tyr Val Ile Phe Asn Ser Gln Met Lys Lys Lys Pro  
35 40 45

Glu Asn Tyr Lys Lys Asn Ile Phe Phe Leu Gln Lys Ala Leu Lys Tyr  
50 55 60

Pro Phe Gly Asn Pro Lys Tyr Ser Leu Thr Lys Ile Glu Thr Lys Glu  
65 70 75 80

Gln Trp Glu Lys Tyr Lys Leu Leu Phe Lys Met His Val Asn Leu Leu  
85 90 95

Leu Val Arg Gln Asn Leu His Leu Gly Asp Leu Phe Asp Thr Arg Asn  
100 105 110

Leu Tyr Phe Phe Lys Thr Pro Glu Lys Asp Gly Ile Ile Ser Asn Leu  
115 120 125

Glu Lys Ser Lys Lys Leu Tyr Lys Leu Ala Ile Asn Tyr Tyr Ser Glu  
130 135 140

Ala Leu Lys Tyr His Lys Lys Leu Glu Asn Tyr Thr Thr Val Lys Leu  
145 150 155 160

Glu Asn Asp Gly Ile Thr Asn Trp Glu Asp Glu Tyr His Lys Ile Ser

```
<210> 101
<211> 185
<212> PRT
<213> Homo sapiens
```

```
<210> 102
<211> 624
<212> DNA
<213> Homo sapiens
```

```
<400> 102
atgcatatatt tcaaaaatgt ccccttccaa ataaatttaa ttttatttct tttagtatca 60
gttgcaaaaga taaatgcatt gtccaaattt tattacgcag aacaatggta tgtaattttt 120
```

```

aattctcaaa tgaaaaaaaa acctgaaaac tataaaaaaa atatattttt ttttcaaaaa 180
gccttaaaat acccatttgg aaatccaaaa tattctctaa ctaaaataga aaccaaagaa 240
cagtgggaaa aatataaaact tcttttcaaa atgcatgtaa acttgcttct agttaggcaa 300
aatttacatt taggagattt attcgacaca agaaatttat attttttcaa aactccagaa 360
aaagatggaa ttattttcaa tctagaaaaa tcaaaaaaat tatataaaact agctattaat 420
tactacagcg aagcactaaa ataccacaaa aaacttgaaa attacacaaac tgttaaacta 480
gaaaacgatg gaataacaaa ctgggaagat gaatatcata aaatttctct taaagagctt 540
aattactatg acattattaa aaaagaacta ctaagaattg acgaaactaa agcatttttt 600
gaacaagggc caaactatta ttaa                                     624

```

```

<210> 103
<211> 185
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc feature
<222> (3)
<223> n equals a,t,g, or c

```

```

<220>
<221> misc feature
<222> (19)
<223> n equals a,t,g, or c

```

```

<220>
<221> misc feature
<222> (28)
<223> n equals a,t,g, or c

```

```

<220>
<221> misc feature
<222> (32)
<223> n equals a,t,g, or c

```

```

<220>
<221> misc feature
<222> (46)
<223> n equals a,t,g, or c

```

```

<220>
<221> misc feature
<222> (72)
<223> n equals a,t,g, or c

```

```

<220>
<221> misc feature
<222> (79)
<223> n equals a,t,g, or c

```

```

<220>
<221> misc feature
<222> (90)
<223> n equals a,t,g, or c

```

```

<220>
<221> misc feature
<222> (105)

```

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (118)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (132)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (140)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (145)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (159)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (183)

<223> n equals a,t,g, or c

<400> 103

kinasskfyy aeqwyvifns qmkkkpenyk kniffllqkal kypfgnkpys ltkietkeqw 60  
 ekyklfkmh vnlllvrgnl hlgdlfdtrn lyffktpekd giisnleksk klyklainyy 120  
 sealkyhkkl enyttvklenn dgntwedey hkiskelny ydiikkellr idetkaffeq 180  
 gpnyy 185

<210> 104

<211> 538

<212> PRT

<213> Homo sapiens

<400> 104

Met Lys Asn Ile Asn Arg Leu Ile Leu Leu Ile Leu Thr Thr His Thr  
 1 5 10 15

Leu Leu Phe Ser Cys Ala Leu Ile Ala Asp Asn Lys Ser Lys Asn Leu  
 20 25 30

Ser Thr Ser Glu Ile Ile Leu Thr Gln Lys Thr Leu Leu Glu Ser Ser  
 35 40 45

Leu Ile Lys Asn Pro Ser Asn Val Glu Tyr Arg Ile Pro Ile Ser Ser  
 50 55 60

Ile Gln Glu Ile Leu Asn Asn Asn Asn Asp Ser Phe Leu Ile Lys Lys  
 65 70 75 80

Thr Ala Ala Lys Ile Lys Ile Ser Pro Gln Lys Leu Glu Glu Ile Lys  
 85 90 95  
 Asn Tyr Leu Asn Ala Tyr Lys Asn Tyr Leu Asn Asn Glu Thr Glu Trp  
 100 105 110  
 Ile Lys Phe Ile Asp Gln Ser Ser Val Asn Gly Asn Leu Thr Ile Lys  
 115 120 125  
 Ile Asp Thr Ala Phe Glu Lys Lys Thr Asn Phe Asn His Thr Asn Ser  
 130 135 140  
 Asp Asn Glu Asn Leu Thr Glu Leu Ile Glu Leu Gln Met His Leu Glu  
 145 150 155 160  
 Lys Glu Ile Leu Asn Leu Ile Glu Gln Thr Phe His Asp Lys Asn Leu  
 165 170 175  
 Gly Tyr Ile Gln Leu Ser His Ile Asn Ser Phe Phe Pro Gln Glu Asn  
 180 185 190  
 Ile Asn Ser Ile Thr Lys Glu Ile Ile Asp Gly Lys Glu Tyr Ile Ala  
 195 200 205  
 Pro His Ile Ile Ala Asn Gln Leu Leu Lys Ile Lys Asp Lys Lys Tyr  
 210 215 220  
 Phe Glu Gln Phe Met His Phe Leu Lys Val Glu Asn Ser Lys Ile Lys  
 225 230 235 240  
 Thr Ile Ile Glu Lys Gln Lys Ile Ser Asp Leu His Asn Glu Leu Tyr  
 245 250 255  
 Tyr Ser Lys Gln Ser Pro Pro Arg Arg Arg Lys Arg Ser Thr Ala Asp  
 260 265 270  
 Ser Asp Asn Asn Asn Lys Tyr Asp Ile Ile Pro Lys Ile Ile Asp Pro  
 275 280 285  
 Asn Thr Gly Ile Glu Ile Thr Pro Lys Asn Leu Arg Ser Ile Leu Ser  
 290 295 300  
 Asn Gly Asp Ile Ile Leu Ile Lys Pro Lys Ile Asp Trp Thr Glu Phe  
 305 310 315 320  
 Phe Tyr Phe Trp Gln His Val Gly Ile Phe Asp Glu Glu Lys Tyr Glu  
 325 330 335  
 Ala Thr Lys Lys Ile Ala Phe Asn Gly Ile Asp Ser Phe Asp Ile Lys  
 340 345 350  
 Ser Ile Ile Thr Ser Asn Gln Ile Lys Phe Asp Thr Ala Ser Thr Gln  
 355 360 365  
 Gly Ser Gly Tyr Glu Lys Leu Ser Thr Tyr Val Gln Ser Arg Ile Leu  
 370 375 380

Lys Ile Phe Ser Pro Ile Thr Asp Ile Arg Thr Ile Gln Lys Ala Ile  
385 390 395 400

Asn Phe Gly Arg Ser Arg Tyr Ile Asp Asn Asn Phe Gly Tyr Met Val  
405 410 415

Pro Leu Ile Ser Ser Asn Leu Trp Thr Asp Ser Phe Asn Leu Glu Glu  
420 425 430

Ile His Asn Lys Thr Tyr Cys Ser Leu Met Val Asp Arg Ile Tyr Lys  
435 440 445

Ile Ala Gly Leu Asn Val Ser Arg Asn Tyr Glu Ile Ser Gly Ile Ile  
450 455 460

Thr Pro Gly Glu Ile Asn Ala Ala Ala Tyr Asn Phe Tyr Met Ser Tyr  
465 470 475 480

Thr Ile Ala Gly Ile Leu Pro Ser Val Leu Pro Lys Arg Leu Ile Lys  
485 490 495

Pro Thr Leu Lys Glu Lys Phe Ile Gly Tyr Asn Lys Glu Ile Val Asp  
500 505 510

Ala Ile Glu Leu Lys Lys Ser Lys Glu Lys Ile Phe Gly Arg Ala Cys  
515 520 525

Asn Ile Thr Asn Leu Trp Cys Ser Gly Ser  
530 535

<210> 105

<211> 518

<212> PRT

<213> Homo sapiens

<400> 105

Cys Ala Leu Ile Ala Asp Asn Lys Ser Lys Asn Leu Ser Thr Ser Glu  
1 5 10 15

Ile Ile Leu Thr Gln Lys Thr Leu Leu Glu Ser Ser Leu Ile Lys Asn  
20 25 30

Pro Ser Asn Val Glu Tyr Arg Ile Pro Ile Ser Ser Ile Gln Glu Ile  
35 40 45

Leu Asn Asn Asn Asn Asp Ser Phe Leu Ile Lys Lys Thr Ala Ala Lys  
50 55 60

Ile Lys Ile Ser Pro Gln Lys Leu Glu Glu Ile Lys Asn Tyr Leu Asn  
65 70 75 80

Ala Tyr Lys Asn Tyr Leu Asn Asn Glu Thr Glu Trp Ile Lys Phe Ile  
85 90 95

Asp Gln Ser Ser Val Asn Gly Asn Leu Thr Ile Lys Ile Asp Thr Ala  
100 105 110

Phe Glu Lys Lys Thr Asn Phe Asn His Thr Asn Ser Asp Asn Glu Asn

115	120	125
Leu Thr Glu Leu Ile Glu 130	Leu Gln Met His 135	Leu Glu Lys Glu Ile Leu 140
Asn Leu Ile Glu Gln Thr 145	Phe His Asp Lys 150	Asn Leu Gly Tyr Ile Gln 155 160
Leu Ser His Ile Asn Ser 165	Phe Phe Pro Gln Glu 170	Asn Ile Asn Ser Ile 175
Thr Lys Glu Ile Ile Asp 180	Gly Lys Glu Tyr Ile 185	Ala Pro His Ile Ile 190
Ala Asn Gln Leu Leu Lys 195	Ile Lys Asp Lys Lys 200	Tyr Phe Glu Gln Phe 205
Met His Phe Leu Lys Val 210	Glu Asn Ser Lys Ile 215	Lys Thr Ile Ile Glu 220
Lys Gln Lys Ile Ser Asp 225	Leu His Asn Glu Leu 230	Tyr Tyr Ser Lys Gln 235 240
Ser Pro Pro Arg Arg Arg 245	Lys Arg Ser Thr Ala 250	Asp Ser Asp Asn Asn 255
Asn Lys Tyr Asp Ile Ile 260	Pro Lys Ile Ile Asp 265	Pro Asn Thr Gly Ile 270
Glu Ile Thr Pro Lys Asn 275	Leu Arg Ser Ile Leu 280	Ser Asn Gly Asp Ile 285
Ile Leu Ile Lys Pro Lys 290	Ile Asp Trp Thr Glu 295	Phe Phe Tyr Phe Trp 300
Gln His Val Gly Ile Phe 305	Asp Glu Glu Lys Tyr 310	Glu Ala Thr Lys Lys 315 320
Ile Ala Phe Asn Gly Ile 325	Asp Ser Phe Asp Ile 330	Lys Ser Ile Ile Thr 335
Ser Asn Gln Ile Lys Phe 340	Asp Thr Ala Ser Thr 345	Gln Gly Ser Gly Tyr 350
Glu Lys Leu Ser Thr Tyr 355	Val Gln Ser Arg Ile 360	Leu Lys Ile Phe Ser 365
Pro Ile Thr Asp Ile Arg 370	Thr Ile Gln Lys Ala 375	Ile Asn Phe Gly Arg 380
Ser Arg Tyr Ile Asp Asn 385	Asn Phe Gly Tyr Met 390	Val Pro Leu Ile Ser 395 400
Ser Asn Leu Trp Thr Asp 405	Ser Phe Asn Leu Glu 410	Glu Ile His Asn Lys 415
Thr Tyr Cys Ser Leu Met 420	Val Asp Arg Ile Tyr 425	Lys Ile Ala Gly Leu 430

Asn Val Ser Arg Asn Tyr Glu Ile Ser Gly Ile Ile Thr Pro Gly Glu  
 435 440 445

Ile Asn Ala Ala Ala Tyr Asn Phe Tyr Met Ser Tyr Thr Ile Ala Gly  
 450 455 460

Ile Leu Pro Ser Val Leu Pro Lys Arg Leu Ile Lys Pro Thr Leu Lys  
 465 470 475 480

Glu Lys Phe Ile Gly Tyr Asn Lys Glu Ile Val Asp Ala Ile Glu Leu  
 485 490 495

Lys Lys Ser Lys Glu Lys Ile Phe Gly Arg Ala Cys Asn Ile Thr Asn  
 500 505 510

Leu Trp Cys Ser Gly Ser  
 515

<210> 106

<211> 1617

<212> DNA

<213> Homo sapiens

<400> 106

```

atgaagaata ttaatagatt aatattatta atattaacta cacacacttt attattctct 60
tgtgccttaa ttgcagataa taagtcaaaa aatttaagca catcagaaat catattaaca 120
caaaaaacac tactagaaag ctctttaata aaaaatcctt ctaatgtaga atatcgaata 180
ccaatatcca gtatccaaga aattttaaac aataacaatg attctttttt aataaaaaaa 240
acagcagcaa aaatcaaaat aagccctcaa aaacttgaag aaataaaaaa ctatctaaat 300
gcttataaaa attatctaaa taatgaaaca gaatggataa agtttataga tcaaagtagc 360
gtcaatggaa atttaacaat taaaattgat actgcttttg aaaaaaaaac aaattttaat 420
catacaaatt cagataatga aaatttaaca gaactaatag aactacaaat gcatctggaa 480
aaagaaattt taaacttaat tgagcaaaca ttctatgata aaaatttagg atatatacaa 540
ttaagtcaca tcaactcatt ctttctcaca gaaaatataa actcaataac aaaagaaata 600
atagatggaa aagaatatat tgcaccgcac ataatagcaa atcaattatt aaaaataaaa 660
gataaaaaat attttgaaca atttatgcac tttttaaaag ttgaaaacag caaaataaaa 720
acaataattg aaaaacaaaa aatttcagat cttcacaatg aactgtatta ttcaaaacaa 780
tccccgccca gaagaagaaa aaggtcaact gccgattccg ataataacaa taaatagcat 840
ataataccaa aaataataga cccaaataca ggcattgaaa taactcctaa aaatttaaga 900
tctattttat caaatggcga cataatacta ataaaaccaa aaatagattg gacagaattt 960
ttttattttt ggcaacatgt gggaatattt gatgaagaaa aatatgaagc cactaaaaaa 1020
attgcattca atggaattga tagctttgat ataaaatcaa taattacaag caatcaaatt 1080
aaattcgata cagcatctac tcaaggttca ggatacgaaa agctttcaac atacgtacaa 1140
tcaagaatat taaaaatatt ctacccaata acagacataa gaacaattca aaaagctatt 1200
aatttttgaa gaagtagata cattgacaat aactttggat atatgggtcc attaatatcc 1260
tctaatttat ggacagattc attcaatctt gaagaaattc acaacaaaac ctattgtctc 1320
ttaatggttg atagaatata taaaatagca ggacttaatg tatcaagaaa ttacgaaatt 1380
tcgggaataa ttactcctgg agaaataaat gcagcagctt acaattttta catgtcttat 1440
acgattgcag gaatacttcc aagcgtgctt ccaaaaaggc tcattaaacc aacattaaaa 1500
gaaaaattca ttggttacaa taaagaaata gtagatgcaa tagaattaaa aaaatcgaaa 1560
gaaaaaattt ttgggagagc ttgcaacatt acaaatctct ggtgctcagg aagtttaa 1617

```

<210> 107

<211> 1557

<212> DNA

<213> Homo sapiens



&lt;400&gt; 107

```

tgtgccttaa ttgcagataa taagtcaaaa aattttaagca catcagaaat catattaaca 60
caaaaaaacac tactagaaaag ctctttaata aaaaatcctt ctaatgtaga atatcgaata 120
ccaatatcca gtatccaaga aattttaaac aataacaatg attctttttt aataaaaaaa 180
acagcagcaa aaatcaaaaat aagccctcaa aaacttgaag aaataaaaaa ctatctaaat 240
gcttataaaa attatctaaa taatgaaaca gaatggataa agttttataga tcaaagtagc 300
gtcaatggaa atttaacaat taaaattgat actgcttttg aaaaaaaaac aaattttaat 360
catacaaatt cagataatga aaatttaaca gaactaatag aactacaaat gcatctggaa 420
aaagaaattt taaacttaat tgagcaaaaca tttcatgata aaaatttagg atatatacaa 480
ttaagtcccc tcaactcatt ctttcctcaa gaaaatataa actcaataac aaaagaaata 540
atagatggaa aagaatatat tgcaccgcac ataatagcaa atcaattatt aaaaataaaa 600
gataaaaaat attttgaaca atttatgcac tttttaaaag ttgaaaacag caaaataaaa 660
acaataattg aaaaacaaaa aatttcagat cttcacaatg aactgtatta ttcaaaacaa 720
tccccgcccc gaagaagaaa aagggtcaact gccgattccg ataataacaa taaatacgat 780
ataataccaa aaataataga cccaaataca ggcattgaaa taactcctaa aaatttaaga 840
tctattttat caaatggcga cataatacta ataaaaccaa aaatagattg gacagaattt 900
ttttattttt ggcaacatgt gggaatatat gatgaagaaa aatatgaagc cactaaaaaa 960
attgcattca atggaattga tagctttgat ataaaatcaa taattacaag caatcaaatac 1020
aaattcgata cagcatctac tcaaggttca ggatacgaag agctttcaac atacgtacaa 1080
tcaagaatat taaaaatatt ctacccaata acagacataa gaacaattca aaaagctatt 1140
aattttggaa gaagtagata cattgacaat aactttggat atatgggtcc attaatatcc 1200
tctaatttat ggacagattc attcaatctt gaagaaattc acaacaaaac ctattgctct 1260
ttaatgggtg atagaatata taaaatagca ggacttaatg tatcaagaaa ttacgaaatt 1320
tcgggaataa ttactcctgg agaaataaat gcagcagctt acaattttta catgtcttat 1380
acgattgcag gaatacttcc aagcgtgctt ccaaaaaggc tcattaaacc aacattaaaa 1440
gaaaaattca ttggttacaa taaagaaata gtagatgcaa tagaattaaa aaaatcgaaa 1500
gaaaaaattt ttgggagagc ttgcaacatt acaaatctct ggtgctcagg aagttaa 1557

```

&lt;210&gt; 108

&lt;211&gt; 186

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 108

```

Met Thr Arg Val Phe Ser Lys Phe Phe Leu Phe Phe Cys Phe Ser Met
  1              5              10              15

Leu Leu Phe Ala Asn Ser Glu Asp Ser Asn Glu Lys Asp Ile Val Ser
      20              25              30

Lys Asp Glu Asn Pro Val Phe Glu Asn Glu Val Leu Gly Tyr Trp Val
      35              40              45

Gly Tyr Asn Asp Val Ser Asn Ile Lys Asn Ser Ile Ile Tyr Ile Tyr
      50              55              60

Lys Tyr Asn Gly Glu Val Tyr Gly Arg Ile Leu Thr Ile Ile Lys Asp
      65              70              75              80

Gly Lys Lys Tyr Asp Ala Lys Asn Pro Ser Gly Asp Thr Val Val Gly
      85              90              95

Phe Glu Asn Leu Ala Ile Glu Gly Leu Asp Phe Met Trp Gly Leu Lys
      100             105             110

Tyr Ser Ser Ser Ser Lys Lys Trp Asp Arg Gly Lys Ile Ile Asp Pro
      115             120             125

```

Lys Asn Gly Lys Ile Tyr Asn Ser Glu Met Arg Val Asp Ser Lys Thr  
 130 135 140

Gly Asn Leu Ile Thr Lys Gly Lys Val Trp Ile Phe Gly Arg Ser Lys  
 145 150 155 160

Ile Trp Thr Arg Ala Lys Asp Asp Glu Ile Pro Lys Leu Asp Leu His  
 165 170 175

Asn Leu Val Pro Ala Pro Pro Val Lys Lys  
 180 185

<210> 109  
 <211> 164  
 <212> PRT  
 <213> Homo sapiens

<400> 109  
 Glu Asp Ser Asn Glu Lys Asp Ile Val Ser Lys Asp Glu Asn Pro Val  
 1 5 10 15

Phe Glu Asn Glu Val Leu Gly Tyr Trp Val Gly Tyr Asn Asp Val Ser  
 20 25 30

Asn Ile Lys Asn Ser Ile Ile Tyr Ile Tyr Lys Tyr Asn Gly Glu Val  
 35 40 45

Tyr Gly Arg Ile Leu Thr Ile Ile Lys Asp Gly Lys Lys Tyr Asp Ala  
 50 55 60

Lys Asn Pro Ser Gly Asp Thr Val Val Gly Phe Glu Asn Leu Ala Ile  
 65 70 75 80

Glu Gly Leu Asp Phe Met Trp Gly Leu Lys Tyr Ser Ser Ser Ser Lys  
 85 90 95

Lys Trp Asp Arg Gly Lys Ile Ile Asp Pro Lys Asn Gly Lys Ile Tyr  
 100 105 110

Asn Ser Glu Met Arg Val Asp Ser Lys Thr Gly Asn Leu Ile Thr Lys  
 115 120 125

Gly Lys Val Trp Ile Phe Gly Arg Ser Lys Ile Trp Thr Arg Ala Lys  
 130 135 140

Asp Asp Glu Ile Pro Lys Leu Asp Leu His Asn Leu Val Pro Ala Pro  
 145 150 155 160

Pro Val Lys Lys

<210> 110  
 <211> 561  
 <212> DNA  
 <213> Homo sapiens

<400> 110  
 atgactagag ttttttcaaa gttttttctt tttttttgtt tttcaatgct tttatttgca 60

```

aattcagaag attcaaatga aaaggacatt gtttagcaagg atgaaaaccc tgtttttgaa 120
aatgaagttt taggatattg gggttggttat aatgatgtaa gtaacataaa gaattctatt 180
atctatattt ataaatataa tggggaagtt tatggccgaa ttttaactat aataaaagat 240
ggcaaaaagt atgatgctaa aaatccttca ggagatactg tagttgggtt tgaaaatctt 300
gcaatagagg gtcttgattt tatgtggggt cttaagtatt cttcttcttc taaaaagtgg 360
gataggggca aaataataga tcctaaaaac ggtaaaattt ataattctga gatgcgtggt 420
gatagtaaaa ccggaaatct tattaccaag gggaaagttt ggatttttgg tagaagtaaa 480
atttgacaaa gagctaaaga tgatgaaata ccaaaattag atttgcataa tcttggtcca 540
gcgccccctg tgaaaaaata a 561

```

```

<210> 111
<211> 495
<212> DNA
<213> Homo sapiens

```

```

<400> 111
gaagattcaa atgaaaagga cattgttagc aaggatgaaa accctgtttt tgaaaatgaa 60
gttttaggat attgggttgg ttataatgat gtaagtaaca taaagaattc tattatctat 120
atttataaat ataattggga agtttatggc cgaattttta ctataataaa agatggcaaa 180
aagtatgatg ctaaaaatcc ttcaggagat actgtagttg ggtttgaaaa tcttgcaata 240
gagggctcttg attttatgtg gggctcttaag tattcttctt cttctaaaaa gtgggatagg 300
ggcaaaataa tagatcctaa aaacggtaaa atttataatt ctgagatgcg tgttgatagt 360
aaaaccggaa atcttattac caaggggaaa gtttgattt ttggtagaag taaaatttgg 420
acaagagcta aagatgatga aataccaaaa ttagatttgc ataattctgt tccagcgccc 480
cctgtgaaaa aataa 495

```

```

<210> 112
<211> 335
<212> PRT
<213> Homo sapiens

```

```

<400> 112
Met Asn Lys Leu Met Leu Met Leu Ile Thr Phe Ala Thr Ser Leu Leu
 1             5             10             15
Ala Gln Thr Asn Lys Ala Ser Thr Gly Leu Lys Thr Asp Gln Ser Phe
          20             25             30
Asn Asn Ser Leu Ser Glu Ser Val Lys Leu Lys Glu Ile Ala Asp Ile
          35             40             45
Tyr Pro Thr Asn Thr Asn Phe Leu Thr Gly Ile Gly Ile Val Ala Gly
          50             55             60
Leu Ala Gly Lys Gly Asp Ser Ile Lys Gln Lys Asp Leu Ile Ile Lys
          65             70             75             80
Ile Leu Glu Glu Asn Asn Ile Ile Asn Glu Ile Gly Ser Asn Asn Ile
          85             90             95
Glu Ser Lys Asn Ile Ala Leu Val Asn Val Ser Leu Gln Val Lys Gly
          100            105            110
Asn Thr Ile Lys Gly Ser Lys His Lys Ala Cys Val Ala Ser Ile Leu
          115            120            125
Asp Ser Lys Asp Leu Thr Asn Gly Ile Leu Leu Lys Thr Asn Leu Lys
          130            135            140

```

Asn Lys Glu Gly Glu Ile Ile Ala Ile Ala Ser Gly Ile Thr Gln Pro  
145 150 155 160

Asn Asn Lys Leu Lys Gly Ser Gly Tyr Thr Ile Asp Ser Val Ile Ile  
165 170 175

Asn Glu Asn Gln Asn Ile Asn His Ser Tyr Asn Ile Ile Leu Lys Lys  
180 185 190

Gly Asn Tyr Thr Leu Ile Asn Arg Ile His Lys Ile Leu Thr Ser Lys  
195 200 205

Lys Ile Asn Asn Lys Ile Lys Ser Asp Ser Thr Ile Glu Ile Glu Ala  
210 215 220

Lys Asn Ile Ser Leu Leu Glu Glu Ile Glu Asn Ile Lys Ile Glu Thr  
225 230 235 240

Asn Pro Lys Ile Leu Ile Asp Lys Lys Asn Gly Ile Ile Leu Ala Ser  
245 250 255

Glu Asn Ala Lys Ile Gly Thr Phe Thr Phe Ser Ile Glu Lys Asp Asn  
260 265 270

Gln Asn Ile Phe Leu Ser Lys Asn Asn Lys Thr Thr Ile Gln Val Asn  
275 280 285

Ser Met Lys Leu Asn Glu Phe Ile Leu Lys Asn Ser Asn Asn Leu Ser  
290 295 300

Asn Lys Glu Leu Ile Gln Ile Ile Gln Ala Ala Gln Lys Ile Asn Lys  
305 310 315 320

Leu Asn Gly Glu Leu Ile Leu Glu Glu Ile Asp Gly Asn Gln Asn  
325 330 335

<210> 113

<211> 310

<212> PRT

<213> Homo sapiens

<400> 113

Leu Lys Thr Asp Gln Ser Phe Asn Asn Ser Leu Ser Glu Ser Val Lys  
1 5 10 15

Leu Lys Glu Ile Ala Asp Ile Tyr Pro Thr Asn Thr Asn Phe Leu Thr  
20 25 30

Gly Ile Gly Ile Val Ala Gly Leu Ala Gly Lys Gly Asp Ser Ile Lys  
35 40 45

Gln Lys Asp Leu Ile Ile Lys Ile Leu Glu Glu Asn Asn Ile Ile Asn  
50 55 60

Glu Ile Gly Ser Asn Asn Ile Glu Ser Lys Asn Ile Ala Leu Val Asn  
65 70 75 80

Val Ser Leu Gln Val Lys Gly Asn Thr Ile Lys Gly Ser Lys His Lys  
 85 90 95  
 Ala Cys Val Ala Ser Ile Leu Asp Ser Lys Asp Leu Thr Asn Gly Ile  
 100 105 110  
 Leu Leu Lys Thr Asn Leu Lys Asn Lys Glu Gly Glu Ile Ile Ala Ile  
 115 120 125  
 Ala Ser Gly Ile Thr Gln Pro Asn Asn Lys Leu Lys Gly Ser Gly Tyr  
 130 135 140  
 Thr Ile Asp Ser Val Ile Ile Asn Glu Asn Gln Asn Ile Asn His Ser  
 145 150 155 160  
 Tyr Asn Ile Ile Leu Lys Lys Gly Asn Tyr Thr Leu Ile Asn Arg Ile  
 165 170 175  
 His Lys Ile Leu Thr Ser Lys Lys Ile Asn Asn Lys Ile Lys Ser Asp  
 180 185 190  
 Ser Thr Ile Glu Ile Glu Ala Lys Asn Ile Ser Leu Leu Glu Glu Ile  
 195 200 205  
 Glu Asn Ile Lys Ile Glu Thr Asn Pro Lys Ile Leu Ile Asp Lys Lys  
 210 215 220  
 Asn Gly Ile Ile Leu Ala Ser Glu Asn Ala Lys Ile Gly Thr Phe Thr  
 225 230 235 240  
 Phe Ser Ile Glu Lys Asp Asn Gln Asn Ile Phe Leu Ser Lys Asn Asn  
 245 250 255  
 Lys Thr Thr Ile Gln Val Asn Ser Met Lys Leu Asn Glu Phe Ile Leu  
 260 265 270  
 Lys Asn Ser Asn Asn Leu Ser Asn Lys Glu Leu Ile Gln Ile Ile Gln  
 275 280 285  
 Ala Ala Gln Lys Ile Asn Lys Leu Asn Gly Glu Leu Ile Leu Glu Glu  
 290 295 300  
 Ile Asp Gly Asn Gln Asn  
 305 310

&lt;210&gt; 114

&lt;211&gt; 1008

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 114

atgaacaaac taatgttgat gttaattaca ttgcaacga gtctattagc ccaaacaaac 60  
 aaagcttcaa caggactaaa aacagatcaa tcatttaaca atagcctatc tgaaagcgta 120  
 aaattaaaag aaattgcgga tatatatccc acaaatacaa attttttaac aggtattgga 180  
 atagtagcgg gacttgctgg aaaaggagac tctataaaac aaaaagacct tataattaaa 240  
 attttagaag aaaacaatat aataaatgaa ataggctcta ataacataga aagtaaaaat 300  
 attgcactag taaatgtcag tctccaagta aaaggtaata caatcaaagg ttcaaaacat 360  
 aaagcttgcg ttgcatcaat actggactca aaagatttaa caaatggaat acttttataaa 420

```

acaaatctta aaaataaaga gggggaaata atagcaattg catcaggaat tacacagccc 480
aataataaat taaaaggatc tggatatact atagatagtg taataataaa tgagaatcaa 540
aatattaacc acagttataa tataattctt aaaaaaggaa attatacatt aataaataga 600
attcataaaa tattaacctc taaaaaaatc aacaacaaaa ttaaatcaga cagcacaata 660
gaaatagaag caaaaaacat aagcctatta gaagagattg aaaatattaa aatagaaacc 720
aaccccaaga tattaataga caaaaaaaat ggtattattt tagcaagtga aaatgcaaaa 780
ataggaactt ttacattttc cattgaaaaa gacaatcaaa acattttttt aagtaaaaaat 840
aacaaaacaa caattcaagt aaactcaatg aaattaaatg aatttatatt aaaaaattcc 900
aacaatctta gcaataaaga attaatccaa ataattcaag ctgcgcaaaa aattaataaa 960
ttaaatgggg aacttatctt ggaggaaatt gatggaaacc aaaattaa 1008

```

&lt;210&gt; 115

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 115

```

ctaaaaacag atcaatcatt taacaatagc ctatctgaaa gcgtaaaatt aaaagaaatt 60
gcggatattt atcccacaaa tacaattttt ttaacaggta ttggaatagt agcgggactt 120
gctggaaaag gagactctat aaaacaaaaa gaccttataa ttaaaatttt agaagaaaac 180
aatataataa atgaaatagg ctctaataac atagaaagta aaaatattgc actagtaaatt 240
gtcagtcctc aagtaaaagg taatacaatc aaagggtcaa aacataaagc ttgcgttgca 300
tcaatactgg actcaaaaaga tttaacaaat ggaatacttt taaaaacaaa tcttaaaaaat 360
aaagaggggg aaataatagc aattgcatca ggaattacac agcccaataa taaattaaaa 420
ggatctggat atactataga tagtgtaata ataaatgaga atcaaaatat taaccacagt 480
tataatataa ttcttaaaaa aggaaattat acattaataa atagaattca taaaatatta 540
acctctaaaa aaatcaacaa caaaattaaa tcagacagca caatagaaat agaagcaaaa 600
aacataagcc tattagaaga gattgaaaat attaaaatag aaaccaaccc caagatatta 660
atagacaaaa aaaatgggat tatttttagca agtgaaaatg caaaaatagg aactttttaca 720
ttttccattg aaaaagacaa tcaaaacatt tttttaagta aaaataacaa aacaacaatt 780
caagtaaact caatgaaatt aaatgaattt atattaaaaa attccaacaa tcttagcaat 840
aaagaattaa ttcaaataat tcaagctgcg caaaaaatta ataaattaaa tggggaactt 900
atcttgaggg aaattgatgg aaacaaaaat taa 933

```

&lt;210&gt; 116

&lt;211&gt; 117

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 116

```

Met Cys Pro Ile Thr Phe Thr Ile Pro Phe Phe Leu Ala Ile Phe Phe
  1              5              10              15

Ala Phe Ser Ser Phe Val Thr Asp Ser Ser Val Ser Leu Leu Ser
      20              25              30

Arg Asn Thr Ser Leu Phe Ser Thr Leu Thr Pro Ile Ser Leu Pro Ile
      35              40              45

Ile Ser Gly Thr Leu Pro Ala Ile Val Thr Leu Ser Lys Lys Tyr Leu
      50              55              60

Ser Ile Ser Leu Ser Phe Ser Lys Met Ile Phe Ile Lys Ser Leu Phe
      65              70              75              80

Glu Val Ile Lys Leu Pro Ile Trp Leu Phe Ile Ile Phe Ala Ser Gly
      85              90              95

```

Tyr Phe Leu Asn Ala Phe Ser Ile Phe Leu Cys Ile Ser Ser Phe Leu  
 100 105 110

Ser Phe Met Phe Ile  
 115

<210> 117

<211> 98

<212> PRT

<213> Homo sapiens

<400> 117

Ser Ser Phe Val Thr Asp Ser Ser Val Ser Leu Leu Ser Arg Asn Thr  
 1 5 10 15

Ser Leu Phe Ser Thr Leu Thr Pro Ile Ser Leu Pro Ile Ile Ser Gly  
 20 25 30

Thr Leu Pro Ala Ile Val Thr Leu Ser Lys Lys Tyr Leu Ser Ile Ser  
 35 40 45

Leu Ser Phe Ser Lys Met Ile Phe Ile Lys Ser Leu Phe Glu Val Ile  
 50 55 60

Lys Leu Pro Ile Trp Leu Phe Ile Ile Phe Ala Ser Gly Tyr Phe Leu  
 65 70 75 80

Asn Ala Phe Ser Ile Phe Leu Cys Ile Ser Ser Phe Leu Ser Phe Met  
 85 90 95

Phe Ile

<210> 118

<211> 354

<212> DNA

<213> Homo sapiens

<400> 118

atgtgtccta ttactttttac cattccattt ttcttagcaa ttttttttgc tttttcaagc 60  
 tcctttgtta cggactcttc tgtgtctttg ctatcaagaa atacgtctct tttttctact 120  
 ttaactccaa tttctttgac tattatttct ggtacgcttc ctgcaatagt tacgctgtcg 180  
 aaaaaaatatc tgtcaatctc tttaagcttt tctaaaatga ttttcatcaa atctttattt 240  
 gaagtgatta aacttcccat atggttattc attatttttg catcaggata ctttttaaat 300  
 gctttttcga tttttttgtg tatttcttct tttttatctt ttatgtttat atga 354

<210> 119

<211> 297

<212> DNA

<213> Homo sapiens

<400> 119

agctcctttg ttacggactc ttctgtgtct ttgctatcaa gaaatacgtc tcttttttct 60  
 actttaactc caatttcttt gcctattatt tctggtacgc ttctgcaat agttacgctg 120  
 tcgaaaaaat atctgtcaat ctctttaagc ttttctaaaa tgattttcat caaatcttta 180  
 tttgaagtga ttaaacttcc catatgggta ttcattattt ttgcatcagg atacttttta 240  
 aatgcttttt cgattttttt gtgtatttct tcttttttat cttttatggt tatatga 297

<210> 120  
 <211> 310  
 <212> PRT  
 <213> Homo sapiens

<400> 120

Met	Ala	Asn	Val	Ala	Leu	Ser	Ser	Gly	Phe	Ile	Ser	Gln	Lys	Ile	Phe
1			5					10					15		
Gly	Ile	Ile	Ile	Ile	Met	Val	Phe	Leu	Pro	Thr	Ile	Ile	Ala	Thr	Pro
		20						25					30		
Ile	Ile	Asn	Phe	Leu	Phe	Lys	Ile	Asn	Lys	Ser	Gly	Leu	Lys	Lys	Glu
	35						40					45			
Leu	Pro	Ile	Asp	Gln	Asn	Thr	His	Ile	Cys	Val	Ser	Phe	Glu	Tyr	Asp
	50					55					60				
Asn	Leu	Ala	Lys	Ile	Leu	Ile	Trp	Asp	Phe	Lys	Asn	Glu	Leu	Arg	Lys
65					70					75					80
Glu	Gly	Phe	Phe	Thr	Gln	Gln	Ile	Lys	Asn	Asp	Ser	Ser	Gln	Tyr	Ile
			85					90						95	
Asn	Ala	Arg	Lys	Asn	Asn	Ile	Ser	Phe	Ser	Ile	Lys	Arg	Glu	Gly	Ser
		100						105					110		
Lys	Ile	Thr	Phe	Glu	Cys	Pro	Asn	Asn	His	Leu	Ile	Ile	Ile	Gln	Asp
	115						120					125			
Leu	Phe	Arg	Glu	Thr	Ile	Leu	Asn	Leu	Glu	Lys	Ile	Thr	Lys	Glu	Val
	130					135					140				
Glu	Thr	Val	Ser	Leu	Arg	Ala	Lys	Lys	Leu	Asp	Tyr	Ser	Ile	Asn	Tyr
145					150					155					160
Asp	Lys	Ile	Leu	Ser	Asn	Ile	Asn	Leu	Asn	Lys	Arg	Ile	Lys	Lys	Glu
			165					170					175		
Asn	Ile	Ile	Leu	Glu	Leu	Lys	Ser	Ser	Asn	Lys	Ala	Asp	Val	Ile	Arg
		180						185					190		
Glu	Leu	Leu	Ser	Val	Ile	Asn	Ile	Glu	Ile	Asp	Lys	Glu	Arg	Ile	Phe
	195					200						205			
Gln	Asp	Leu	Met	Glu	Arg	Glu	Lys	Leu	Ile	Thr	Thr	Ala	Leu	Lys	Glu
	210					215						220			
Gly	Phe	Ala	Ile	Pro	His	Leu	Lys	Thr	Asn	Leu	Ile	Ser	Lys	Ile	His
225					230					235					240
Ile	Ala	Ile	Gly	Ile	Ser	His	Glu	Gly	Ile	Asp	Phe	Asn	Ala	Leu	Asp
			245						250					255	
Lys	Asn	Leu	Ser	His	Val	Phe	Ile	Leu	Ile	Leu	Cys	Pro	Ala	Lys	Asp
		260						265					270		
Tyr	Val	Ser	Tyr	Pro	Arg	Ile	Leu	Ala	Ser	Val	Val	Gly	Lys	Val	Asp



275                      280                      285  
 Leu Tyr Lys Lys Glu Ile Leu Asn Ala Lys Thr Asp Lys Glu Ile Tyr  
     290                      295                      300  
 Asn Ile Ile Val Ser Glx  
 305                      310  
 <210> 121  
 <211> 288  
 <212> PRT  
 <213> Homo sapiens  
 <400> 121  
 Val Phe Leu Pro Thr Ile Ile Ala Thr Pro Ile Ile Asn Phe Leu Phe  
     1                      5                      10                      15  
 Lys Ile Asn Lys Ser Gly Leu Lys Lys Glu Leu Pro Ile Asp Gln Asn  
                     20                      25                      30  
 Thr His Ile Cys Val Ser Phe Glu Tyr Asp Asn Leu Ala Lys Ile Leu  
             35                      40                      45  
 Ile Trp Asp Phe Lys Asn Glu Leu Arg Lys Glu Gly Phe Phe Thr Gln  
     50                      55                      60  
 Gln Ile Lys Asn Asp Ser Ser Gln Tyr Ile Asn Ala Arg Lys Asn Asn  
     65                      70                      75                      80  
 Ile Ser Phe Ser Ile Lys Arg Glu Gly Ser Lys Ile Thr Phe Glu Cys  
                     85                      90                      95  
 Pro Asn Asn His Leu Ile Ile Ile Gln Asp Leu Phe Arg Glu Thr Ile  
             100                      105                      110  
 Leu Asn Leu Glu Lys Ile Thr Lys Glu Val Glu Thr Val Ser Leu Arg  
             115                      120                      125  
 Ala Lys Lys Leu Asp Tyr Ser Ile Asn Tyr Asp Lys Ile Leu Ser Asn  
     130                      135                      140  
 Ile Asn Leu Asn Lys Arg Ile Lys Lys Glu Asn Ile Ile Leu Glu Leu  
 145                      150                      155                      160  
 Lys Ser Ser Asn Lys Ala Asp Val Ile Arg Glu Leu Leu Ser Val Ile  
             165                      170                      175  
 Asn Ile Glu Ile Asp Lys Glu Arg Ile Phe Gln Asp Leu Met Glu Arg  
             180                      185                      190  
 Glu Lys Leu Ile Thr Thr Ala Leu Lys Glu Gly Phe Ala Ile Pro His  
     195                      200                      205  
 Leu Lys Thr Asn Leu Ile Ser Lys Ile His Ile Ala Ile Gly Ile Ser  
     210                      215                      220  
 His Glu Gly Ile Asp Phe Asn Ala Leu Asp Lys Asn Leu Ser His Val  
 225                      230                      235                      240

Phe Ile Leu Ile Leu Cys Pro Ala Lys Asp Tyr Val Ser Tyr Pro Arg  
 245 250 255

Ile Leu Ala Ser Val Val Gly Lys Val Asp Leu Tyr Lys Lys Glu Ile  
 260 265 270

Leu Asn Ala Lys Thr Asp Lys Glu Ile Tyr Asn Ile Ile Val Ser Glx  
 275 280 285

<210> 122

<211> 930

<212> DNA

<213> Homo sapiens

<400> 122

```
atggcaaatg tagcattatc ttcaggattt attagccaaa aaatattttg aatcataata 60
ataatgggtg ttttgccaac aatcattgca acaccataa taaacttttt atttaaaata 120
aataaaaagt gacttaaaaa agaactccca atagatcaaa atacacacat atgcgtatca 180
tttgaatatg ataatttagc caaaattctt atatgggact ttaaaaatga gttaagaaaa 240
gaaggatttt ttacacaaca aattaaaaaat gattcttcac aatatattaa tgcaagaaaa 300
aacaatatat ctttctcaat aaaacgagaa ggtagcaaaa tcacatttga atgccc aaat 360
aatcatttaa ttataatata agatcttttt agagaaacaa tcttaaacct agaaaaaata 420
accaaagaag ttgaaacagt ctctttaaga gcaaaaaaac tagattactc aataaattac 480
gataaaatcc ttagtaatat caacctaaat aaaagaataa aaaaggaaaa cattattcta 540
gaattaaaat caagcaataa ggctgatgta ataagagagc ttctaagcgt aataaacatt 600
gaaattgata aagaaagaat attccaagat ttaatggaaa gagaaaagtt aattactact 660
gcactaaaag aaggctttgc cattcccat ttaaaaaaca atttaatatc aaaaatacat 720
attgcaatag gaataagcca tgagggaatt gactttaatg ctcttgacaa gaacttaagt 780
catgttttta tattaatact gtgcccagca aaagattacg ttagctaccc tagaatttta 840
gcactgtgtg tgggcaaatg tgatctgtac aaaaaagaaa ttttaaatgc aaaaacagat 900
aaagaaattt ataataataa agtgagctaa 930
```

<210> 123

<211> 861

<212> DNA

<213> Homo sapiens

<400> 123

```
tttttgccaa caatcattgc aacacccata ataaactttt tatttaaaat aaataaaaagt 60
ggacttaaaa aagaactccc aatagatcaa aatacacaca tatgcgtatc atttgaatat 120
gataatttag ccaaaattct tatatgggac ttaaaaaatg agttaagaaa agaaggattt 180
tttacacaac aaattaaaaa tgattcttca caatatatta atgcaagaaa aaacaatata 240
tccttctcaa taaaacgaga aggtagcaaa atcacatttg aatgccc aaa taatcattta 300
attataatac aagatctttt tagagaaaca atcttaaacc tagaaaaaat aaccaaagaa 360
gttgaaacag tctctttaag agcaaaaaaa ctagattact caataaatta cgataaaatc 420
cttagtaata tcaacctaaa taaaagaata aaaaaggaaa acattattct agaattaaaa 480
tcaagcaata aggctgatgt aataagagag ctcttaagcg taataaacat tgaaattgat 540
aaagaaaaga tattccaaga tttaatggaa agagaaaagt taattactac tgcactaaaa 600
gaaggctttg ccattcccca tttaaaaaca aatttaatat caaaaatata tattgcaata 660
ggaataagcc atgagggaat tgactttaat gctcttgaca agaacttaag tcatgttttt 720
atattaatac tgtgcccagc aaaagattac gtttagctacc ctagaatttt agcatctgtt 780
gtgggcaaaag ttgatctgta caaaaaagaa atttttaaat caaaaacaga taaagaaatt 840
tataatataa tagtgagcta a 861
```

<210> 124  
 <211> 286  
 <212> PRT  
 <213> Homo sapiens

<400> 124

Met	Glu	Lys	Pro	Gln	Gly	Val	Ser	Ile	Val	Gly	Ala	Ile	Ser	Gly	Ala
1				5					10					15	
Met	His	Val	His	Leu	Met	Ala	Glu	His	Tyr	Gly	Val	Pro	Val	Val	Leu
			20					25					30		
His	Thr	Asp	His	Cys	Ala	Lys	Asn	Leu	Leu	Pro	Trp	Val	Glu	Gly	Leu
		35					40					45			
Leu	Glu	Tyr	Gly	Glu	Lys	Tyr	Tyr	Ser	Gln	His	Lys	Lys	Pro	Leu	Phe
	50					55					60				
Ser	Ser	His	Met	Leu	Asp	Leu	Ser	Glu	Glu	Pro	Ile	Lys	Glu	Asn	Ile
	65				70					75					80
Glu	Ile	Ser	Lys	Lys	Phe	Leu	Glu	Arg	Met	Ala	Lys	Ile	Glu	Met	Phe
				85					90					95	
Leu	Glu	Ile	Glu	Leu	Gly	Ile	Thr	Gly	Gly	Glu	Glu	Asp	Gly	Val	Asp
			100					105					110		
Asn	Ser	Asp	Arg	Ala	Leu	His	Glu	Leu	Phe	Ser	Thr	Pro	Glu	Asp	Ile
		115					120					125			
Tyr	Tyr	Gly	Tyr	Ser	Glu	Leu	Leu	Lys	Val	Ser	Pro	Asn	Phe	Gln	Ile
	130					135					140				
Ala	Ala	Ala	Phe	Gly	Asn	Val	His	Gly	Val	Tyr	Lys	Pro	Gly	Asn	Val
145					150					155					160
Lys	Leu	Thr	Pro	Lys	Val	Leu	Lys	Asp	Gly	Gln	Asp	Tyr	Val	Ile	Ser
				165					170					175	
Lys	Thr	Gly	Val	Asn	Met	Ala	Lys	Pro	Val	Ser	Tyr	Val	Phe	His	Gly
		180						185					190		
Gly	Ser	Gly	Ser	Thr	Ile	Asp	Glu	Ile	Asn	Glu	Ala	Leu	Ser	Tyr	Gly
		195					200					205			
Val	Val	Lys	Met	Asn	Ile	Asp	Thr	Asp	Thr	Gln	Trp	Ala	Ala	Trp	Glu
	210					215					220				
Gly	Val	Leu	Asn	Tyr	Tyr	Lys	Lys	Asn	Glu	Ser	Arg	Leu	Gln	Gly	Gln
225					230					235					240
Leu	Gly	Asp	Gly	Lys	Asp	Ile	Asp	Ile	Pro	Asn	Lys	Lys	Phe	Tyr	Asp
				245					250					255	
Pro	Arg	Val	Trp	Leu	Arg	Glu	Ala	Glu	Val	Ser	Met	Lys	Asp	Arg	Val
			260					265					270		
Lys	Ile	Ala	Cys	Lys	Asn	Leu	Asn	Asn	Ile	Asn	Arg	Asn	Glx		

275                                      280                                      285  
 <210> 125  
 <211> 270  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 125  
 Met His Val His Leu Met Ala Glu His Tyr Gly Val Pro Val Val Leu  
   1                  5                  10                  15  
 His Thr Asp His Cys Ala Lys Asn Leu Leu Pro Trp Val Glu Gly Leu  
                   20                  25                  30  
 Leu Glu Tyr Gly Glu Lys Tyr Tyr Ser Gln His Lys Lys Pro Leu Phe  
                   35                  40                  45  
 Ser Ser His Met Leu Asp Leu Ser Glu Glu Pro Ile Lys Glu Asn Ile  
   50                  55                  60  
 Glu Ile Ser Lys Lys Phe Leu Glu Arg Met Ala Lys Ile Glu Met Phe  
   65                  70                  75                  80  
 Leu Glu Ile Glu Leu Gly Ile Thr Gly Gly Glu Glu Asp Gly Val Asp  
                   85                  90                  95  
 Asn Ser Asp Arg Ala Leu His Glu Leu Phe Ser Thr Pro Glu Asp Ile  
                   100                  105                  110  
 Tyr Tyr Gly Tyr Ser Glu Leu Leu Lys Val Ser Pro Asn Phe Gln Ile  
   115                  120                  125  
 Ala Ala Ala Phe Gly Asn Val His Gly Val Tyr Lys Pro Gly Asn Val  
   130                  135                  140  
 Lys Leu Thr Pro Lys Val Leu Lys Asp Gly Gln Asp Tyr Val Ile Ser  
   145                  150                  155                  160  
 Lys Thr Gly Val Asn Met Ala Lys Pro Val Ser Tyr Val Phe His Gly  
                   165                  170                  175  
 Gly Ser Gly Ser Thr Ile Asp Glu Ile Asn Glu Ala Leu Ser Tyr Gly  
                   180                  185                  190  
 Val Val Lys Met Asn Ile Asp Thr Asp Thr Gln Trp Ala Ala Trp Glu  
   195                  200                  205  
 Gly Val Leu Asn Tyr Tyr Lys Lys Asn Glu Ser Arg Leu Gln Gly Gln  
   210                  215                  220  
 Leu Gly Asp Gly Lys Asp Ile Asp Ile Pro Asn Lys Lys Phe Tyr Asp  
   225                  230                  235                  240  
 Pro Arg Val Trp Leu Arg Glu Ala Glu Val Ser Met Lys Asp Arg Val  
                   245                  250                  255  
 Lys Ile Ala Cys Lys Asn Leu Asn Asn Ile Asn Arg Asn Glx  
                   260                  265                  270

<210> 126  
 <211> 858  
 <212> DNA  
 <213> Homo sapiens

<400> 126  
 atggaacac cacaaggagt ttcaatagtt ggagctatct ctggtgctat gcatgttcat 60  
 ttaatggcag agcattatgg tggtcctggt gttcttcata ctgactactg tgctaaaat 120  
 ttgcttcctt ggggtgaagg ccttttagaa tatggagaga aatactatag tcagcacaaa 180  
 aaaccattat tttcttcaca tatgttagat ttatcagaag aacctattaa agaaaatatt 240  
 gaaatttcta aaaaattctt agaaagaatg gcaaaaattg aaatgttttt ggaaatagag 300  
 cttggaatta cgggtgggga agaggatgga gttgacaatt cagatagagc tttgcatgaa 360  
 ctattttcta ctctgagga tatttattat ggatattcag aacttttaaa agttagccca 420  
 aattttcaga ttgcagcagc ttttggaat gttcatgggg tatataaacc ggggaatggt 480  
 aagcttactc caaaagtgtt aaaagatggg caagattatg tcatatcaaa aacaggagta 540  
 aatatggcta agccagtttc ttatgttttt catggagggt ctggatctac aattgatgag 600  
 attaatgagg cgctttctta tggcgttgta aagatgaata ttgacacaga tacacagtgg 660  
 gctgcctggg aggggtgttt aaattattac aaaaaaaatg aaagtcgttt gcaagggtcaa 720  
 ttaggagatg gcaaggatat tgatattcca aataagaaat tttatgatcc aagggtttgg 780  
 ttaagagaag ctgaagtgtt tatgaaagac cgtgtgaaga ttgcatgcaa aaatcttaat 840  
 aatattaata gaaattaa 858

<210> 127  
 <211> 810  
 <212> DNA  
 <213> Homo sapiens

<400> 127  
 atgcatgttc atttaatggc agagcattat ggtgttcctg ttgttcttca tactgatcac 60  
 tgtgctaaaa atttgcttcc ttgggttgaa ggccttttag aatatggaga gaaatactat 120  
 agtcagcaca aaaaaccatt attttcttca catatgttag atttatcaga agaacctatt 180  
 aaagaaaata ttgaaatttc taaaaaattc ttagaaagaa tggcaaaaat tgaaatgttt 240  
 ttggaatatag agcttggaat tacgggtggg gaagaggatg gagttgacaa ttcagataga 300  
 gctttgcatg aactattttc tactcctgag gatatttatt atggatattc agaactttta 360  
 aaagttagcc caaattttca gattgcagca gcttttgga atgttcatgg ggtatataaa 420  
 ccggggaatg ttaagcttac tccaaaagtt ttaaaagatg gtcaagatta tgtcatatca 480  
 aaaacaggag taaatatggc taagccagtt tcttatgttt ttcattggagg gtctggatct 540  
 acaattgatg agattaatga ggcgctttct tatggcgttg taaagatgaa tattgacaca 600  
 gatacacagt gggctgcctg ggagggtgtt tttaaattatt acaaaaaaaa tgaaagtcgt 660  
 ttgcaaggtc aattaggaga tggcaaggat attgatattc caaataagaa attttatgat 720  
 ccaagggttt ggtaagaga agctgaagtt tctatgaaag accgtgtgaa gattgcatgc 780  
 aaaaatctta ataatttaa tagaaattaa 810

<210> 128  
 <211> 651  
 <212> PRT  
 <213> Homo sapiens

<400> 128  
 Met Pro Ser Ser Phe Pro Phe Leu Leu Val Asn Gly Ser Ser Gly Ile  
 1 5 10 15  
 Ala Val Gly Met Ala Thr Asn Met Ala Pro His Asn Leu Arg Glu Ile  
 20 25 30  
 Cys Asp Ala Ile Val Tyr Met Leu Asp Asn Glu Asn Ala Ser Ile Phe  
 35 40 45

Asp Leu Leu Lys Ile Val Lys Gly Pro Asp Phe Pro Thr Phe Gly Glu  
 50 55 60  
 Ile Val Tyr Asn Asp Asn Leu Ile Lys Ala Tyr Lys Thr Gly Lys Gly  
 65 70 75 80  
 Ser Val Val Ile Arg Ala Arg Tyr His Ile Glu Glu Arg Ala Glu Asp  
 85 90 95  
 Arg Asn Ala Ile Ile Val Thr Glu Ile Pro Tyr Thr Val Asn Lys Ser  
 100 105 110  
 Ala Leu Leu Met Lys Val Ala Leu Leu Ala Lys Glu Glu Lys Leu Glu  
 115 120 125  
 Gly Leu Leu Asp Ile Arg Asp Glu Ser Asp Arg Glu Gly Ile Arg Ile  
 130 135 140  
 Val Leu Glu Val Lys Arg Gly Phe Asp Pro His Val Ile Met Asn Leu  
 145 150 155 160  
 Leu Tyr Glu Tyr Thr Glu Phe Lys Lys His Phe Ser Ile Asn Asn Leu  
 165 170 175  
 Ala Leu Val Asn Gly Ile Pro Lys Gln Leu Asn Leu Glu Glu Leu Leu  
 180 185 190  
 Phe Glu Phe Ile Glu His Arg Lys Asn Ile Ile Glu Arg Arg Ile Glu  
 195 200 205  
 Phe Asp Leu Arg Lys Ala Lys Glu Lys Ala His Val Leu Glu Gly Leu  
 210 215 220  
 Asn Ile Ala Leu Asn Asn Ile Asp Glu Val Ile Lys Ile Ile Lys Ser  
 225 230 235 240  
 Ser Lys Leu Ala Lys Asp Ala Arg Glu Arg Leu Val Ser Asn Phe Gly  
 245 250 255  
 Leu Ser Glu Ile Gln Ala Asn Ser Val Leu Asp Met Arg Leu Gln Lys  
 260 265 270  
 Leu Thr Ala Leu Glu Ile Phe Lys Leu Glu Glu Glu Leu Asn Ile Leu  
 275 280 285  
 Leu Ser Leu Ile Lys Asp Tyr Glu Asp Ile Leu Leu Asn Pro Val Arg  
 290 295 300  
 Ile Ile Asn Ile Ile Arg Glu Glu Thr Ile Asn Leu Gly Leu Lys Phe  
 305 310 315 320  
 Gly Asp Glu Arg Arg Thr Lys Ile Ile Tyr Asp Glu Glu Val Leu Lys  
 325 330 335  
 Thr Ser Met Ser Asp Leu Met Gln Lys Glu Asn Ile Val Val Met Leu  
 340 345 350

Thr Lys Lys Gly Phe Leu Lys Arg Leu Ser Gln Asn Glu Tyr Lys Leu  
 355 360 365  
 Gln Gly Thr Gly Gly Lys Gly Leu Ser Ser Phe Asp Leu Asn Asp Gly  
 370 375 380  
 Asp Glu Ile Val Ile Ala Leu Cys Val Asn Thr His Asp Tyr Leu Phe  
 385 390 395 400  
 Met Ile Ser Asn Glu Gly Lys Leu Tyr Leu Ile Asn Ala Tyr Glu Ile  
 405 410 415  
 Lys Asp Ser Ser Arg Ala Ser Lys Gly Gln Asn Ile Ser Glu Leu Ile  
 420 425 430  
 Asn Leu Gly Asp Gln Glu Glu Ile Leu Thr Ile Lys Asn Ser Lys Asp  
 435 440 445  
 Leu Thr Asp Asp Ala Tyr Leu Leu Leu Thr Thr Ala Ser Gly Lys Ile  
 450 455 460  
 Ala Arg Phe Glu Ser Thr Asp Phe Lys Ala Val Lys Ser Arg Gly Val  
 465 470 475 480  
 Ile Val Ile Lys Leu Asn Asp Lys Asp Phe Val Thr Ser Ala Glu Ile  
 485 490 495  
 Val Phe Lys Asp Glu Lys Val Ile Cys Leu Ser Lys Lys Gly Ser Ala  
 500 505 510  
 Phe Ile Phe Asn Ser Arg Asp Val Arg Leu Thr Asn Arg Gly Thr Gln  
 515 520 525  
 Gly Val Cys Gly Met Lys Leu Lys Glu Gly Asp Leu Phe Val Lys Val  
 530 535 540  
 Leu Ser Val Lys Glu Asn Pro Tyr Leu Leu Ile Val Ser Glu Asn Gly  
 545 550 555 560  
 Tyr Gly Lys Arg Leu Asn Met Ser Lys Ile Ser Glu Leu Lys Arg Gly  
 565 570 575  
 Ala Thr Gly Tyr Thr Ser Tyr Lys Lys Ser Asp Lys Lys Ala Gly Ser  
 580 585 590  
 Val Val Asp Ala Ile Ala Val Ser Glu Asp Asp Glu Ile Leu Leu Val  
 595 600 605  
 Ser Lys Arg Ser Lys Ala Leu Arg Thr Val Ala Gly Lys Val Ser Glu  
 610 615 620  
 Gln Gly Lys Asp Ala Arg Gly Ile Gln Val Leu Phe Leu Asp Asn Asp  
 625 630 635 640  
 Ser Leu Val Ser Val Ser Lys Phe Ile Lys Glx  
 645 650

&lt;211&gt; 632

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 129

Met Ala Thr Asn Met Ala Pro His Asn Leu Arg Glu Ile Cys Asp Ala  
 1 5 10 15

Ile Val Tyr Met Leu Asp Asn Glu Asn Ala Ser Ile Phe Asp Leu Leu  
 20 25 30

Lys Ile Val Lys Gly Pro Asp Phe Pro Thr Phe Gly Glu Ile Val Tyr  
 35 40 45

Asn Asp Asn Leu Ile Lys Ala Tyr Lys Thr Gly Lys Gly Ser Val Val  
 50 55 60

Ile Arg Ala Arg Tyr His Ile Glu Glu Arg Ala Glu Asp Arg Asn Ala  
 65 70 75 80

Ile Ile Val Thr Glu Ile Pro Tyr Thr Val Asn Lys Ser Ala Leu Leu  
 85 90 95

Met Lys Val Ala Leu Leu Ala Lys Glu Glu Lys Leu Glu Gly Leu Leu  
 100 105 110

Asp Ile Arg Asp Glu Ser Asp Arg Glu Gly Ile Arg Ile Val Leu Glu  
 115 120 125

Val Lys Arg Gly Phe Asp Pro His Val Ile Met Asn Leu Leu Tyr Glu  
 130 135 140

Tyr Thr Glu Phe Lys Lys His Phe Ser Ile Asn Asn Leu Ala Leu Val  
 145 150 155 160

Asn Gly Ile Pro Lys Gln Leu Asn Leu Glu Glu Leu Leu Phe Glu Phe  
 165 170 175

Ile Glu His Arg Lys Asn Ile Ile Glu Arg Arg Ile Glu Phe Asp Leu  
 180 185 190

Arg Lys Ala Lys Glu Lys Ala His Val Leu Glu Gly Leu Asn Ile Ala  
 195 200 205

Leu Asn Asn Ile Asp Glu Val Ile Lys Ile Ile Lys Ser Ser Lys Leu  
 210 215 220

Ala Lys Asp Ala Arg Glu Arg Leu Val Ser Asn Phe Gly Leu Ser Glu  
 225 230 235 240

Ile Gln Ala Asn Ser Val Leu Asp Met Arg Leu Gln Lys Leu Thr Ala  
 245 250 255

Leu Glu Ile Phe Lys Leu Glu Glu Glu Leu Asn Ile Leu Leu Ser Leu  
 260 265 270

Ile Lys Asp Tyr Glu Asp Ile Leu Leu Asn Pro Val Arg Ile Ile Asn  
 275 280 285



Ile Ile Arg Glu Glu Thr Ile Asn Leu Gly Leu Lys Phe Gly Asp Glu  
 290 295 300  
 Arg Arg Thr Lys Ile Ile Tyr Asp Glu Glu Val Leu Lys Thr Ser Met  
 305 310 315 320  
 Ser Asp Leu Met Gln Lys Glu Asn Ile Val Val Met Leu Thr Lys Lys  
 325 330 335  
 Gly Phe Leu Lys Arg Leu Ser Gln Asn Glu Tyr Lys Leu Gln Gly Thr  
 340 345 350  
 Gly Gly Lys Gly Leu Ser Ser Phe Asp Leu Asn Asp Gly Asp Glu Ile  
 355 360 365  
 Val Ile Ala Leu Cys Val Asn Thr His Asp Tyr Leu Phe Met Ile Ser  
 370 375 380  
 Asn Glu Gly Lys Leu Tyr Leu Ile Asn Ala Tyr Glu Ile Lys Asp Ser  
 385 390 395 400  
 Ser Arg Ala Ser Lys Gly Gln Asn Ile Ser Glu Leu Ile Asn Leu Gly  
 405 410 415  
 Asp Gln Glu Glu Ile Leu Thr Ile Lys Asn Ser Lys Asp Leu Thr Asp  
 420 425 430  
 Asp Ala Tyr Leu Leu Leu Thr Thr Ala Ser Gly Lys Ile Ala Arg Phe  
 435 440 445  
 Glu Ser Thr Asp Phe Lys Ala Val Lys Ser Arg Gly Val Ile Val Ile  
 450 455 460  
 Lys Leu Asn Asp Lys Asp Phe Val Thr Ser Ala Glu Ile Val Phe Lys  
 465 470 475 480  
 Asp Glu Lys Val Ile Cys Leu Ser Lys Lys Gly Ser Ala Phe Ile Phe  
 485 490 495  
 Asn Ser Arg Asp Val Arg Leu Thr Asn Arg Gly Thr Gln Gly Val Cys  
 500 505 510  
 Gly Met Lys Leu Lys Glu Gly Asp Leu Phe Val Lys Val Leu Ser Val  
 515 520 525  
 Lys Glu Asn Pro Tyr Leu Leu Ile Val Ser Glu Asn Gly Tyr Gly Lys  
 530 535 540  
 Arg Leu Asn Met Ser Lys Ile Ser Glu Leu Lys Arg Gly Ala Thr Gly  
 545 550 555 560  
 Tyr Thr Ser Tyr Lys Lys Ser Asp Lys Lys Ala Gly Ser Val Val Asp  
 565 570 575  
 Ala Ile Ala Val Ser Glu Asp Asp Glu Ile Leu Leu Val Ser Lys Arg  
 580 585 590

Ser Lys Ala Leu Arg Thr Val Ala Gly Lys Val Ser Glu Gln Gly Lys  
595 600 605

Asp Ala Arg Gly Ile Gln Val Leu Phe Leu Asp Asn Asp Ser Leu Val  
610 615 620

Ser Val Ser Lys Phe Ile Lys Glx  
625 630

<210> 130

<211> 1953

<212> DNA

<213> Homo sapiens

<400> 130

```

atgccgctcat cttttccatt tcttttggtg aatgggtcta gtggaattgc tgttggaatg 60
gctactaata tggcacctca taattttaaga gaaatttggt atgccattgt ttacatgcta 120
gataatgaga atgcttctat atttgatttg cttaaaatag ttaaagggcc tgatttccca 180
acttttggag agattgttta taatgataat ttaattaaag catacaaaac tggcaaggga 240
agtgttggtt ttagggcaag atatcatatt gaagaaagag cagaagatag aaatgctata 300
attgtttacag aaatacctta tacggtaaat aaatctgcac ttcttatgaa agttgcgctt 360
ttagcaaaag aagaaaagct agaaggactt ttagatataa gagatgaatc tgatcgagaa 420
ggtattagga tagttcctga agttaaaaga ggatttgatc ctcatgttat tatgaatttg 480
ctttatgaat atactgaatt taaaaagcat tttagtataa ataatttagc cttgtttaat 540
ggtattcca aacagttaaa tttagaagaa ttgttatttg aatttattga gcatagaaaa 600
aatattatcg aaagacgtat tgaatttgac ttgagaaagg caaaagagaa agcacatgtt 660
cttgagggat taaatattgc tttaaataat atagatgagg ttattaagat tattaaatca 720
tctaaattag caaaagatgc aagggagagg cttgtttcga attttggctt ttcagagatt 780
caggccaatt cagttcctga tatgagggtt caaaaactta cagcccttga gatttttaag 840
cttgaaggag agcttaatat actgttaagc ttaataaaaag attatgaaga tattctcttg 900
aatccagtaa ggattattaa tattataaga gaagaaacta ttaatttagg tttgaaattt 960
ggcgatgaac gtcgaactaa aataatttat gatgaggagg ttttaaaaac tagtatgtcg 1020
gatttaatgc aaaaagaaaa tattgttggt atgcttacaa agaaagggtt ccttaaaaaga 1080
ctttcacaaa atgagtataa attgcaaggt acgggaggaa aaggactaag ttcgtttgat 1140
ctaaatgatg gagatgagat tgttattgct ttgtgtgtca atactcatga ttatttattt 1200
atgatttcaa atgaaggaaa gctttattta atcaatgctt atgaaataaa agattcttca 1260
agagcttcaa aaggtcagaa tattagttag cttattaatt taggatgata agaagaaata 1320
ttaactatta agaatagtaa agatttaact atttattgct tacaactgca 1380
agtggaaaga tagctagatt cgaatctaca gattttaaag cagtaaagtc acgagggtgt 1440
attgttatta aactgaatga taaagatttt gttacaagtg cagagattgt ttttaaggat 1500
gaaaaagtaa tttgtctttc taaaaagggt agtgcattta tatttaattc aagggatgtt 1560
aggcttacta atagagggtac ccaagggtgt tgtggaatga aattaaaaga aggtgatttg 1620
tttgttaaag ttttatcggt taaagaaaat ccttatcttt tgattgtttc tgaaaatggg 1680
tatggaaaaa ggttaaaccat gtctaaaata tctgagctta aaagaggagc cactggttat 1740
actagttata aaaaatctga taaaaaagcg ggtagtgttg ttgatgctat agcagtttca 1800
gaggatgatg aaatcttgct tgtaagtaaa cgttcaaaag cttaagaac agtagctgga 1860
aaagtatctg aacaaggcaa agatgctaga ggaattcaag tattatttct tgataatgac 1920
agcttggttt ctgtttcaaa atttattaaa taa
1953

```

<210> 131

<211> 1896

<212> DNA

<213> Homo sapiens

<400> 131

```

atggctacta atatggcacc tcataattta agagaaattt gtgatgccat tgtttacatg 60
ctagataatg agaatgcttc tatatttgat ttgcttaaaa tagttaaagg gcctgatttc 120
ccaacttttg gagagattgt ttataatgat aatttaatta aagcatacaa aactggcaag 180

```

```

ggaagtgttg ttattagggc aagatatcat attgaagaaa gagcagaaga tagaaatgct 240
ataattgtta cagaaatacc ttatacggta aataaatctg cacttccttat gaaagttgcg 300
cttttagcaa aagaagaaaa gctagaagga ctttttagata taagagatga atctgatcga 360
gaaggtatta ggatagttct tgaagttaaa agaggatttg atcctcatgt tattatgaat 420
ttgcttttat aatatactga atttaaaaag ctttttagta taaataattt agcccttggt 480
aatgggtatt ccaaacagtt aaatttagaa gaattgttat ttgaatttat tgagcataga 540
aaaaatatta tcgaaagacg tattgaattt gacttgagaa aggcaaaaga gaaagcacat 600
gttcttgagg gattaaatat tgctttaaat aatatagatg aggttattaa gattattaaa 660
tcactctaat tagcaaaaaga tgcaaggagg aggccttggtt cgaatttttg tctttcagag 720
attcaggcca attcagttct tgatatgagg ttacaaaaac ttacagccct tgagattttt 780
aagcttgaag aggagcttaa tatactgtta agcttaataa aagattatga agatattctc 840
ttgaatccag taaggattat taatattata agagaagaaa ctattaattt aggtttgaaa 900
tttggcgatg aacgtcgaac taaaataatt tatgatgagg aggtttttaa aactagtatg 960
tcggatttaa tgcaaaaaga aaatattggt gttatgctta caaagaaagg tttcctttaa 1020
agactttcac aaaaagagta taaattgcaa ggtacgggag gaaaaggact aagttcgttt 1080
gatctaaatg atggagatga gattgttatt gctttgtgtg tcaatactca tgattattta 1140
tttatgattt caaatgaagg aaagctttat ttaatcaatg cttatgaaat aaaagattct 1200
tcaagagctt caaaaaggta gaattattag gagcttatta atttaggaga tcaagaagaa 1260
atattaacta ttaagaatag taaagattta actgatgatg cttatttatt gcttacaact 1320
gcaagtggaa agatagctag attcgaatct acagatttta aagcagtaaa gtcacgaggt 1380
gttattgtta ttaactgaa tgataaagat tttgttaca gtgcagagat tgtttttaag 1440
gatgaaaaag taatttgtct ttctaaaaag ggtagtgcac ttatatttaa tcaagggat 1500
gttaggctta ctaatagagg tacccaagg gtttgtggaa tgaaatttaa agaagggtgat 1560
ttgtttgtta aagttttatc gggttaaagaa aatccttatc ttttgattgt ttctgaaaat 1620
gggtatggaa aaagggttaa catgtctaaa atatctgagc ttaaaagagg agccactggt 1680
tatactagtt ataaaaaatc tgataaaaaa gcgggtagtg ttgttgatgc tatagcagtt 1740
tcagaggatg atgaaatctt gcttgtaagt aaacgttcaa aagctttaag aacagtagct 1800
ggaaaagtat ctgaacaagg caaagatgct agaggaattc aagtattatt tcttgataat 1860
gacagcttgg tttctgtttc aaaatttatt aaataa 1896

```

&lt;210&gt; 132

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 132

```

Met Phe Ala Leu Ile Arg Lys Ile Phe Met Ile Tyr Phe Leu Cys Ile
  1               5               10               15

```

```

Thr Leu Ala Gly Phe Ala Met Ile Phe Ile Asp Ser Lys Phe Thr Glu
      20               25               30

```

```

Gln Pro Asn Val Lys Glu Asn Gln Ser Lys Ile Asn Gln His Thr Ile
      35               40               45

```

```

Glu Pro Asn Leu Ile Met Phe Thr Ser Ser Ile Gly Gly Phe Leu Gly
      50               55               60

```

```

Val Tyr Val Gly Ile Trp Ile Phe Asn Tyr Asp Lys Ser Asn Phe Tyr
      65               70               75               80

```

```

Leu Asn Trp Gly Asn Leu Ile Ile Leu Ile Tyr Asn Ile Ala Leu Ile
      85               90               95

```

```

Ile Thr Val Tyr Ser Lys Ser His Ser
      100               105

```

&lt;210&gt; 133

<211> 83  
 <212> PRT  
 <213> Homo sapiens

<400> 133  
 Met Ile Phe Ile Asp Ser Lys Phe Thr Glu Gln Pro Asn Val Lys Glu  
           1                  5                  10                  15  
 Asn Gln Ser Lys Ile Asn Gln His Thr Ile Glu Pro Asn Leu Ile Met  
                   20                  25                  30  
 Phe Thr Ser Ser Ile Gly Gly Phe Leu Gly Val Tyr Val Gly Ile Trp  
           35                  40                  45  
 Ile Phe Asn Tyr Asp Lys Ser Asn Phe Tyr Leu Asn Trp Gly Asn Leu  
           50                  55                  60  
 Ile Ile Leu Ile Tyr Asn Ile Ala Leu Ile Ile Thr Val Tyr Ser Lys  
           65                  70                  75                  80  
 Ser His Ser

<210> 134  
 <211> 318  
 <212> DNA  
 <213> Homo sapiens

<400> 134  
 atgtttgcat taattagaaa aatatttatg atctattttt tatgcattac tcttgcaggt 60  
 ttgtccatga tttttattga cagcaaattt accgaacagc ctaatgttaa agaaaatcaa 120  
 agcaaaatta atcaacatac aattgaaccc aatttaatac tgtttacatc ttctatagga 180  
 ggatttttag gtgtttatgt tggaatttgg atctttaact atgacaaaag caatttttac 240  
 ctaaattggg gaaatttaata aatattaata tacaacatag ccctaattat cactgtatac 300  
 tcaaaatcac atagtttag 318

<210> 135  
 <211> 252  
 <212> DNA  
 <213> Homo sapiens

<400> 135  
 atgattttta ttgacagcaa atttaccgaa cagcctaattg tttaaagaaaa tcaaagcaaa 60  
 attaatacac atacaattga acccaattta atcatgttta catcttctat aggaggattt 120  
 ttaggtgttt atgttggaat ttggatcttt aactatgaca aaagcaattt ttacctaaat 180  
 tggggaaatt taataatatt aatatacaac atagccctaa ttatcactgt atactcaaaa 240  
 tcacatagtt ag 252

<210> 136  
 <211> 209  
 <212> PRT  
 <213> Homo sapiens

<400> 136  
 Met Lys Lys Thr Pro Asn Thr Cys Ile Phe Leu Thr Leu Leu Ile Ile  
           1                  5                  10                  15  
 Ser Asn Leu Asn Ala Leu Ala Asn Glu Glu Gly Asn Thr Asn Glu Lys

20										25										30										
Asn	Asp	Gln	Pro	Lys	Gln	Ile	Ser	Asn	Phe	Phe	Ser	Pro	Glu	Arg	Gly															
		35					40					45																		
Phe	Ile	Tyr	Ser	Thr	Gly	Ile	Gly	Ile	Gly	Val	Gly	Phe	Phe	Leu	Asn															
	50					55					60																			
Ser	Asn	Ile	Lys	His	Leu	Ile	Phe	Arg	Pro	Tyr	Tyr	Thr	Phe	Ser	Asn															
	65				70					75					80															
Asn	Thr	Phe	Asp	Phe	Leu	Ile	Val	Ala	Met	Ile	Leu	Thr	Arg	Glu	Ser															
				85					90					95																
Leu	Asn	Ile	Pro	Lys	Lys	Met	Gln	Tyr	Phe	Lys	Ser	Tyr	Ile	Gly	Gly															
			100				105						110																	
Gly	Ile	Asn	Trp	His	Ile	Ala	Asn	Leu	Ile	Lys	Lys	Thr	Lys	Tyr	Phe															
		115					120					125																		
Ser	Ala	Thr	Ile	Gly	Ile	Gly	Gly	Arg	Phe	Tyr	Leu	Ser	Thr	Asn	Phe															
	130					135					140																			
Ile	Glu	Asp	Ile	Arg	Phe	Tyr	Glu	Lys	Leu	Pro	Tyr	Val	Ile	Glu	Pro															
	145				150					155				160																
Tyr	Met	Phe	Ile	Glu	Ile	Ser	Ser	Lys	Lys	Ala	Ile	Pro	Leu	Met	Gly															
				165				170						175																
Leu	Asp	Phe	Lys	Ile	Asp	Phe	Leu	Phe	Leu	Asp	Thr	Phe	Asn	Ile	Ser															
			180				185						190																	
Phe	Asn	Phe	Thr	Ile	Arg	Tyr	Asn	Phe	Lys	Asp	Lys	Asn	Glu	Met	Glu															
		195				200						205																		

Thr

&lt;210&gt; 137

&lt;211&gt; 186

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 137

Asn	Glu	Glu	Gly	Asn	Thr	Asn	Glu	Lys	Asn	Asp	Gln	Pro	Lys	Gln	Ile
1				5					10					15	

Ser	Asn	Phe	Phe	Ser	Pro	Glu	Arg	Gly	Phe	Ile	Tyr	Ser	Thr	Gly	Ile
		20					25					30			

Gly	Ile	Gly	Val	Gly	Phe	Phe	Leu	Asn	Ser	Asn	Ile	Lys	His	Leu	Ile
	35						40					45			

Phe	Arg	Pro	Tyr	Tyr	Thr	Phe	Ser	Asn	Asn	Thr	Phe	Asp	Phe	Leu	Ile
	50					55				60					

Val	Ala	Met	Ile	Leu	Thr	Arg	Glu	Ser	Leu	Asn	Ile	Pro	Lys	Lys	Met
	65				70					75				80	

Gln Tyr Phe Lys Ser Tyr Ile Gly Gly Gly Ile Asn Trp His Ile Ala  
85 90 95

Asn Leu Ile Lys Lys Thr Lys Tyr Phe Ser Ala Thr Ile Gly Ile Gly  
100 105 110

Gly Arg Phe Tyr Leu Ser Thr Asn Phe Ile Glu Asp Ile Arg Phe Tyr  
115 120 125

Glu Lys Leu Pro Tyr Val Ile Glu Pro Tyr Met Phe Ile Glu Ile Ser  
130 135 140

Ser Lys Lys Ala Ile Pro Leu Met Gly Leu Asp Phe Lys Ile Asp Phe  
145 150 155 160

Leu Phe Leu Asp Thr Phe Asn Ile Ser Phe Asn Phe Thr Ile Arg Tyr  
165 170 175

Asn Phe Lys Asp Lys Asn Glu Met Glu Thr  
180 185

<210> 138

<211> 630

<212> DNA

<213> Homo sapiens

<400> 138

```
atgaaaaaaaa ctccaaacac ttgtatttttc ttaacattgc ttatcatttc caattttaa 60
gcacttgcaa atgaagaagg caatactaata gaaaaaaatg atcaacccaa acaaatctct 120
aattttttta gccagaaag agggttcata tattcaacag gaattgggat tggagttgga 180
ttttttctaa attcaaatat taaacacctt atcttttagac cttattatac attctctaata 240
aatacttttg attttttaat cgttgctatg atattaacaa gggaaagcct taatatcccc 300
aaaaaaatgc aatactttta atcttatatt ggaggaggaa taaactggca cattgcaaac 360
ttaattaaaa aaacaaaata tttttccgcc accattggca taggtggtcg tttttaccta 420
tctacaaact ttatagaaga cattcgattt tacgaaaaat tgccttatgt aatagagcct 480
tatatgttta ttgaaatttc ttctaaaaag gcaattcctt taatggggtt agactttaaa 540
attgattttt tatttttaga tacatttaac atttctttta attttactat tagatataat 600
tttaaggaca aaaacgagat ggaaacatga 630
```

<210> 139

<211> 561

<212> DNA

<213> Homo sapiens

<400> 139

```
aatgaagaag gcaataactaa tgaaaaaaat gatcaaccca aacaaatctc taattttttt 60
agcccagaaa gaggttcat atattcaaca ggaattggga ttggagttgg attttttcta 120
aattcaaata ttaaacacct tatcttttaga ccttattata cattctctaa taatactttt 180
gattttttta tcgttgctat gatattaaca agggaaagcc ttaatatccc caaaaaaatg 240
caatacttta aatcttatat tggaggagga ataaactggc acattgcaaa ctttaattaaa 300
aaaacaaaat atttttccgc caccattggc ataggtggtc gtttttacct atctacaaac 360
tttatagaag acattcgatt ttacgaaaaa ttgccttatg taatagagcc ttatatgttt 420
attgaaattt cttctaaaaa ggcaattcct ttaatggggt tagactttta aattgatttt 480
ttatttttag atacatttaa catttctttt aattttacta ttagatataa ttttaaggac 540
aaaaacgaga tggaaacatg a 561
```

<210> 140

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 140

```

Met Ile Pro Val Val Ala Ser Gly Gly Ile Leu Ile Ala Leu Ser Ile
 1             5             10             15

Ala Phe Val Gly Ile Gly Pro Asp Gly Pro Asn Phe Ala Glu His Pro
      20             25             30

Phe Tyr Lys Gln Ile Ala Asp Ile Gly Ser Ile Ala Phe Gly Met Met
      35             40             45

Leu Pro Val Leu Ala Gly Phe Ile Ala Met Ala Ile Ala Asp Lys Pro
      50             55             60

Gly Leu Thr Pro Gly Leu Val Gly Gly Val Met Ser Gly Asn Val Lys
      65             70             75             80

Ala Gly Phe Leu Gly Ala Ile Phe Ala Gly Phe Leu Ala Gly Tyr Val
      85             90             95

Ala Arg Phe Leu Ala Arg Arg Ser Val Pro Glu Trp Leu Arg Pro Val
      100             105             110

Met Pro Ile Phe Val Ile Pro Leu Ile Ser Thr Ile Ile Val Gly Phe
      115             120             125

Phe Met Leu Tyr Phe Gly Val Tyr Ile Gly Lys Phe Met Gly Val Leu
      130             135             140

Glu Ser Gly Leu Lys Ser Leu Gln Ser Asn Ser Glu Thr Phe Gly Val
      145             150             155             160

Leu Gly Lys Ile Phe Leu Gly Leu Val Leu Gly Ser Met Ile Thr Val
      165             170             175

Asp Met Gly Gly Pro Phe Asn Lys Val Ala Phe Leu Phe Gly Val Gly
      180             185             190

Leu Ile Pro Gln Val Pro Glu Ile Met Gly Met Val Ala Ala Ala Ile
      195             200             205

Pro Val Pro Pro Met Ala Met Gly Leu Ala Thr Phe Leu Ala Pro Lys
      210             215             220

Leu Phe Glu Asn Glu Glu Lys Glu Ser Gly Lys Ile Ala Phe Leu Ile
      225             230             235             240

Ser Phe Ile Gly Ile Ser Glu Gly Ala Ile Pro Phe Ala Ala Ser Asp
      245             250             255

Pro Gly Arg Val Ile Pro Ser Ile Val Val Gly Gly Ala Val Ser Ser
      260             265             270

Ile Ile Ala Ala Phe Leu Gly Val Ala Asn His Ala Pro His Gly Gly
      275             280             285

```

Pro Ile Val Leu Pro Val Ile Asp Asn Lys Phe Gly Phe Ile Ile Ala  
 290 295 300

Ile Ala Val Gly Val Ala Val Ala Thr Ala Leu Val Ile Phe Leu Lys  
 305 310 315 320

Ser Leu Lys Leu Lys Glu Ser Glu  
 325

<210> 141

<211> 267

<212> PRT

<213> Homo sapiens

<400> 141

Asp Lys Pro Gly Leu Thr Pro Gly Leu Val Gly Gly Val Met Ser Gly  
 1 5 10 15

Asn Val Lys Ala Gly Phe Leu Gly Ala Ile Phe Ala Gly Phe Leu Ala  
 20 25 30

Gly Tyr Val Ala Arg Phe Leu Ala Arg Arg Ser Val Pro Glu Trp Leu  
 35 40 45

Arg Pro Val Met Pro Ile Phe Val Ile Pro Leu Ile Ser Thr Ile Ile  
 50 55 60

Val Gly Phe Phe Met Leu Tyr Phe Gly Val Tyr Ile Gly Lys Phe Met  
 65 70 75 80

Gly Val Leu Glu Ser Gly Leu Lys Ser Leu Gln Ser Asn Ser Glu Thr  
 85 90 95

Phe Gly Val Leu Gly Lys Ile Phe Leu Gly Leu Val Leu Gly Ser Met  
 100 105 110

Ile Thr Val Asp Met Gly Gly Pro Phe Asn Lys Val Ala Phe Leu Phe  
 115 120 125

Gly Val Gly Leu Ile Pro Gln Val Pro Glu Ile Met Gly Met Val Ala  
 130 135 140

Ala Ala Ile Pro Val Pro Pro Met Ala Met Gly Leu Ala Thr Phe Leu  
 145 150 155 160

Ala Pro Lys Leu Phe Glu Asn Glu Glu Lys Glu Ser Gly Lys Ile Ala  
 165 170 175

Phe Leu Ile Ser Phe Ile Gly Ile Ser Glu Gly Ala Ile Pro Phe Ala  
 180 185 190

Ala Ser Asp Pro Gly Arg Val Ile Pro Ser Ile Val Val Gly Gly Ala  
 195 200 205

Val Ser Ser Ile Ile Ala Ala Phe Leu Gly Val Ala Asn His Ala Pro  
 210 215 220



His Gly Gly Pro Ile Val Leu Pro Val Ile Asp Asn Lys Phe Gly Phe  
225 230 235 240

Ile Ile Ala Ile Ala Val Gly Val Ala Val Ala Thr Ala Leu Val Ile  
245 250 255

Phe Leu Lys Ser Leu Lys Leu Lys Glu Ser Glu  
260 265

<210> 142

<211> 987

<212> DNA

<213> Homo sapiens

<400> 142

```
atgattcctg ttgttgcaag tggaggaatt ttaattgctc ttagcattgc ttttggtggg 60
attggacctg atgggcctaa ttttgctgag catccatttt ataagcagat tgcagatatt 120
ggttctatag cttttgggat gatgttgccc gtgcttgctg gttttattgc aatggcaatt 180
gctgataagc ctggtccttac ccccggtcct gttggtggag taatgtctgg gaatgtaaaa 240
gcagggtttct tgggcgcgaat atttgccgggc tttcttgagc gttatgttgc aagggttttta 300
gcaagaagat ctgttcctga gtggttaaga cctgtaatgc ctatatattgt aattccgcta 360
ataagcacca ttattgtcgg cttttttatg ctgtattttg gtgtttatat tggaaaatttt 420
atgggggtgc ttgagagtgg gcttaaatct ttacagagta attcggaaac ttttggcgtg 480
ttgggtaaaa ttttcttagg cttagtacta ggttcaatga ttactgttga tatgggcgga 540
ccttttaata aagtggcatt tctttttggt gtagggctaa ttccctcaagt gccagaaata 600
atgggaatgg tagcagcagc aattcctggt cctcctatgg ctatggggct tgcaaccttt 660
ttagcaccta aattgtttga aaatgaagaa aaagaatctg gtaaaatagc ctttttaatt 720
tcattttattg gtattagcga aggagctatt ccttttgctg ctagtgatcc cggacgggta 780
atcccttcga tagtggtagg gggagctgta tcaagcatta ttgccgcttt tttaggcggt 840
gctaatacatg ctccacacgg aggaccaata gtacttcctg ttattgataa taaatttggg 900
tttattattg caattgctgt tggagttgcg gttgcaacag ctttggtaat ttttttgaaa 960
tctttaaaat taaaggaatc tgaatga 987
```

<210> 143

<211> 804

<212> DNA

<213> Homo sapiens

<400> 143

```
gataagcctg gtcttaccct cggctcttgtt ggtggagtaa tgtctgggaa tgtaaaagca 60
ggtttcttgg gcgcaatatt tgcgggcttt cttgcagggt atgttgcaag gtttttagca 120
agaagatctg ttcctgagtg gttaagacct gtaatgccta tatttgtaat tccgctaata 180
agcaccatta ttgtcggctt ttttatgctg tattttgggt tttatattgg aaaatttatg 240
ggggtgcttg agagtgggct taaatcttta cagagtaatt cggaaaacttt tggcgtgttg 300
ggtaaaaattt tcttaggctt agtactaggt tcaatgatta ctgttgatat gggcggacct 360
tttaataaaag tggcatttct ttttgggtga gggctaattc ctcaagtgcc agaaaataatg 420
ggaatggtag cagcagcaat tctgttctt cctatggcta tggggcttgc aaccttttta 480
gcacctaaat tgtttgaaaa tgaagaaaaa gaatctggta aaatagcctt tttaatttca 540
tttattggta ttagcgaagg agctattcct tttgctgcta gtgatcccg acgggtaatc 600
ccttcgatag tggtaggggg agctgtatca agcattattg ccgctttttt aggcgttgct 660
aatcatgctc cacacggagg accaatagta cttcctgtta ttgataataa atttgggttt 720
attattgcaa ttgctgttgg agttgcgggt gcaacagctt tggtaatttt tttgaaatct 780
ttaaaattaa aggaatctga atga 804
```

<210> 144

<211> 203

<212> PRT

<213> Homo sapiens

&lt;400&gt; 144

Met Ile Lys Ile Phe Lys Lys Ile Tyr Ile Leu Thr Leu Val Leu Gly  
 1 5 10 15

Met Ala His Leu Ser Phe Ala Ser Asp Asn Tyr Met Val Arg Cys Ser  
 20 25 30

Lys Glu Glu Asp Ser Thr Thr Cys Ile Ala Lys Leu Lys Glu Ile Lys  
 35 40 45

Glu Lys Lys Asn Tyr Asp Leu Phe Ser Met Gly Ile Gly Ile Gly Asp  
 50 55 60

Pro Ile Ala Asn Ile Met Ile Thr Ile Pro Tyr Ile Asn Ile Asp Phe  
 65 70 75 80

Gly Tyr Gly Gly Phe Ile Gly Leu Lys Ser Asn Asn Phe Glu Asn Tyr  
 85 90 95

Leu Asn Gly Gly Ile Asp Val Ile Phe Lys Lys Gln Ile Gly Gln Tyr  
 100 105 110

Met Lys Ile Gly Gly Gly Ile Gly Ile Gly Ala Asp Trp Ser Lys Thr  
 115 120 125

Ser Leu Ile Pro Pro Asn Glu Glu Glu Thr Asp Tyr Glu Arg Ile  
 130 135 140

Gly Ala Val Ile Arg Ile Pro Phe Ile Met Glu Tyr Asn Phe Ala Lys  
 145 150 155 160

Asn Leu Ser Ile Gly Phe Lys Ile Tyr Pro Ala Val Gly Pro Thr Ile  
 165 170 175

Leu Leu Thr Lys Pro Ser Ile Leu Phe Glu Gly Ile Lys Phe Asn Phe  
 180 185 190

Phe Gly Phe Gly Phe Ile Lys Phe Ala Phe Asn  
 195 200

&lt;210&gt; 145

&lt;211&gt; 179

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 145

Asp Asn Tyr Met Val Arg Cys Ser Lys Glu Glu Asp Ser Thr Thr Cys  
 1 5 10 15

Ile Ala Lys Leu Lys Glu Ile Lys Glu Lys Lys Asn Tyr Asp Leu Phe  
 20 25 30

Ser Met Gly Ile Gly Ile Gly Asp Pro Ile Ala Asn Ile Met Ile Thr  
 35 40 45

Ile Pro Tyr Ile Asn Ile Asp Phe Gly Tyr Gly Gly Phe Ile Gly Leu  
 50 55 60

Lys Ser Asn Asn Phe Glu Asn Tyr Leu Asn Gly Gly Ile Asp Val Ile  
 65 70 75 80  
 Phe Lys Lys Gln Ile Gly Gln Tyr Met Lys Ile Gly Gly Gly Ile Gly  
 85 90 95  
 Ile Gly Ala Asp Trp Ser Lys Thr Ser Leu Ile Pro Pro Asn Glu Glu  
 100 105 110  
 Glu Glu Thr Asp Tyr Glu Arg Ile Gly Ala Val Ile Arg Ile Pro Phe  
 115 120 125  
 Ile Met Glu Tyr Asn Phe Ala Lys Asn Leu Ser Ile Gly Phe Lys Ile  
 130 135 140  
 Tyr Pro Ala Val Gly Pro Thr Ile Leu Leu Thr Lys Pro Ser Ile Leu  
 145 150 155 160  
 Phe Glu Gly Ile Lys Phe Asn Phe Phe Gly Phe Gly Phe Ile Lys Phe  
 165 170 175  
 Ala Phe Asn

<210> 146  
 <211> 612  
 <212> DNA  
 <213> Homo sapiens

<400> 146  
 atgataaaaaa tttttaaaaa aatatacatt ttaacattag tattaggtat ggcacacctt 60  
 tcttttgcac ctgacaatta tatgggtcaga tgcagcaagg aagaagattc aaccacctgt 120  
 atcgcaaagc ttaaagaaat aaaagaaaag aaaaattatg acttatattc aatgggcatt 180  
 ggaataggag atcctattgc aaatattatg attacaattc cttatataaa tattgatttt 240  
 ggatatggag gttttattgg ccttaagtca aacaattttg aaaattatct aaatggtgga 300  
 atagacgtta tttttaaaaa gcaaattgga caatatatga aaattggcgg cggcattgga 360  
 ataggtgcgg attgggtcaaa aacatccctt atacccccta atgaagaaga agaaactgat 420  
 tatgagagaa taggcgctgt tataagaatt cttttataaa tggaatataa ttttgcaaaa 480  
 aatttatcca taggattcaa aatttatcct gcagtagggc caacaatatt actaacaaaa 540  
 ccaagcattt tatttgaagg aattaaattc aatttttttg gatttggatt cataaaattt 600  
 gcatttaatt aa 612

<210> 147  
 <211> 540  
 <212> DNA  
 <213> Homo sapiens

<400> 147  
 gacaattata tgggtcagatg cagcaaggaa gaagattcaa ccacctgtat cgcaaagctt 60  
 aaagaaataa aagaaaagaa aaattatgac ttattttcaa tgggcatttg aataggagat 120  
 cctattgcaa atattatgat tacaattcct tatataaata ttgatttttg atatggaggt 180  
 tttattggcc ttaagtcaaa caattttgaa aattatctaa atgggtggaat agacgttatt 240  
 tttaaaaagc aaattggaca atatatgaaa attggcggcg gcattggaat aggtgcggat 300  
 tgggtcaaaaa catcccttat accccccta atgaagaag aaactgatta tgagagaata 360  
 ggcgctgtta taagaattcc ttttataatg gaatataatt ttgcaaaaaa tttatccata 420  
 ggattcaaaa tttatcctgc agtagggcca acaatattac taacaaaacc aagcatttta 480  
 tttgaaggaa ttaaattcaa tttttttgga tttggattca taaaatttgc atttaattaa 540

<210> 148  
 <211> 203  
 <212> PRT  
 <213> Homo sapiens

<400> 148

```

Met Arg Met Leu Leu Ala Thr Ile Ile Leu Ile Leu Thr Thr Gly Leu
 1           5           10           15

Leu Ala Ala Gln Ser Lys Ser Lys Ser Met Thr Glu Asp Asp Phe Asp
      20           25           30

Phe Asp Lys Leu Leu Ala Lys Glu Glu Ser Val Arg Arg Leu Phe Gly
      35           40           45

Ile Gly Phe Gly Val Gly Tyr Pro Leu Ala Asn Ile Thr Ile Ser Val
      50           55           60

Pro Tyr Val Asp Ile Asp Leu Gly Tyr Gly Gly Phe Val Gly Leu Lys
      65           70           75           80

Pro Asn Asn Phe Leu Pro Tyr Val Val Met Gly Val Asp Leu Leu Phe
      85           90           95

Lys Asp Glu Ile His Lys Asn Thr Met Ile Ser Gly Gly Ile Gly Ile
      100          105          110

Gly Ala Asp Trp Ser Lys Gly Ser Pro Glu Lys Ser Asn Glu Lys Leu
      115          120          125

Glu Glu Glu Glu Glu Asn Glu Ala Gln Gln Val Ala Ser Leu Gln Asn
      130          135          140

Arg Ile Gly Val Val Ile Arg Leu Pro Leu Val Ile Glu Tyr Ser Phe
      145          150          155          160

Leu Lys Asn Ile Val Ile Gly Phe Lys Ala Val Ala Thr Ile Gly Thr
      165          170          175

Thr Met Leu Leu Gly Ser Pro Met Ser Phe Glu Gly Ala Arg Phe Asn
      180          185          190

Phe Leu Gly Thr Gly Phe Ile Lys Ile Tyr Ile
      195          200

```

<210> 149  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 149

```

Gln Ser Lys Ser Lys Ser Met Thr Glu Asp Asp Phe Asp Phe Asp Lys
 1           5           10           15

Leu Leu Ala Lys Glu Glu Ser Val Arg Arg Leu Phe Gly Ile Gly Phe
      20           25           30

```

Gly Val Gly Tyr Pro Leu Ala Asn Ile Thr Ile Ser Val Pro Tyr Val  
35 40 45

Asp Ile Asp Leu Gly Tyr Gly Gly Phe Val Gly Leu Lys Pro Asn Asn  
50 55 60

Phe Leu Pro Tyr Val Val Met Gly Val Asp Leu Leu Phe Lys Asp Glu  
65 70 75 80

Ile His Lys Asn Thr Met Ile Ser Gly Gly Ile Gly Ile Gly Ala Asp  
85 90 95

Trp Ser Lys Gly Ser Pro Glu Lys Ser Asn Glu Lys Leu Glu Glu Glu  
100 105 110

Glu Glu Asn Glu Ala Gln Gln Val Ala Ser Leu Gln Asn Arg Ile Gly  
115 120 125

Val Val Ile Arg Leu Pro Leu Val Ile Glu Tyr Ser Phe Leu Lys Asn  
130 135 140

Ile Val Ile Gly Phe Lys Ala Val Ala Thr Ile Gly Thr Thr Met Leu  
145 150 155 160

Leu Gly Ser Pro Met Ser Phe Glu Gly Ala Arg Phe Asn Phe Leu Gly  
165 170 175

Thr Gly Phe Ile Lys Ile Tyr Ile  
180

<210> 150

<211> 612

<212> DNA

<213> Homo sapiens

<400> 150

atgagaatgc tattagcaac aataatactt atattaacaa cgggtttatt agctgcacaa 60  
tccaaaagca aaagtatgac tgaagatgac tttgattttg ataaaacttct tgcaaaagaa 120  
gagtcctgtgc gccgtttatt tggcataggt tttggagttg gatatccact tgcaaàcatt 180  
acaatatctg ttccatatgt agacatagac cttgggtacg gaggattcgt agggcttaaa 240  
cccaacaatt tcttgcccta tgttgtgatg ggtgtagatc ttctatttaa agatgaaata 300  
cacaaaaaca ctatgatttc tggaggcatt ggaataggtg cagattgggtc aaaaggaagt 360  
cctgaaaaat caaatgaaaa acttgaagaa gaggaagaaa atgaagcaca acaagtagct 420  
tctcttcaaa atagaatagg ggttgtgata agattgcctt tggtaataga gtacagcttt 480  
cttaaaaata ttgtgattgg atttaaagct gttgtacta ttggaacaac tatgtactt 540  
ggcagcccaa tgtcatttga aggagctaga ttttaatttct taggcacagg ctttataaaa 600  
atatatatat ag 612

<210> 151

<211> 555

<212> DNA

<213> Homo sapiens

<400> 151

caatccaaaa gcaaaagtat gactgaagat gactttgatt ttgataaact tcttgcaaaa 60  
gaagagtctg tgcgccgttt atttggcata ggttttggag ttggatatcc acttgcaaac 120  
attacaatat ctgttcata ttagacata gaccttgggt acggaggatt cgtagggtt 180  
aaacccaaca atttcttgcc ctatgttgtg atgggtgtag atcttctatt taaagatgaa 240

atacacaaaa acactatgat ttctggaggc attggaatag gtgcagattg gtcaaaaagga 300  
 agtcctgaaa aatcaaatga aaaacttgaa gaagaggaag aaaatgaagc acaacaagta 360  
 gcttctcttc aaaatagaat aggggttggtg ataagattgc ctttggtaat agagtacagc 420  
 tttcttaaaa atattgtgat tggatttaaa gctgttgcta ctattggaac aactatgcta 480  
 cttggcagcc caatgtcatt tgaaggagct agatttaatt tcttaggcac aggctttata 540  
 aaaatatata tatag 555

<210> 152

<211> 400

<212> PRT

<213> Homo sapiens

<400> 152

Met Asn Ile Lys Ile Asn Phe Phe Phe Thr Leu Pro Ile Gly Ile Phe  
 1 5 10 15

Leu Gly Leu Phe Phe Pro Leu Gly Ile Tyr Ser Ser Leu Ser His Ala  
 20 25 30

Phe Ile Arg Leu Ser Tyr Leu Ser Leu Ile Pro Phe Leu Ile Phe Ser  
 35 40 45

Ile Pro Leu Gly Ile Glu Asn Ile Ile Glu Asn Lys Asn Phe Lys Lys  
 50 55 60

Leu Phe Gly Lys Thr Ile Tyr Tyr Gly Ile Leu Thr Asn Leu Ser Gly  
 65 70 75 80

Val Ala Val Ser Ile Ile Ala Ala Thr Ile Tyr Leu Pro Gln Arg Ile  
 85 90 95

Pro Ile Leu Glu Lys Thr Ile Gln Asn Thr Cys Phe Phe Glu Lys Glu  
 100 105 110

Ala Leu Leu Glu Thr Phe Phe Pro Lys Asn Ile Phe Lys Ile Phe Thr  
 115 120 125

Ser Ser Asn Pro Asn Leu Leu Ser Ile Tyr Met Ile Ser Ile Ile Ile  
 130 135 140

Gly Thr Ser Phe Tyr Tyr Ala Lys Gln Lys Gly Arg Ile Ala Arg Glu  
 145 150 155 160

Leu Met Leu Ser Ala Ser Asn Leu Phe Tyr His Ala Asn Gly Phe Ile  
 165 170 175

Val Asn Ile Leu Asn Ile Gly Ile Ile Phe Ile Thr Ala Asn Tyr Ala  
 180 185 190

Ala Asn Leu Lys Asn Phe Lys Asp Tyr Pro Asn Tyr Thr Asn Ser Ile  
 195 200 205

Thr Phe Phe Leu Ala Trp Thr Ile Ile Ile Leu Phe Val Ile Leu Pro  
 210 215 220

Thr Ile Ser Tyr Arg Leu Thr Lys Ser Phe Lys Met Ile Tyr Lys Gly  
 225 230 235 240

Ile Phe Val Ser Phe Gln Asn Ile Ile Phe Ser Gly Leu Ala Lys Asp  
 245 250 255  
 Ser Tyr Ser Pro Tyr Val Ile Leu Ile Glu Asp Ile Lys Asn Glu Arg  
 260 265 270  
 Ile Asn Ile Lys Lys Ser Ile Ile Ile Asn Ile Pro Leu Ile Asn Phe  
 275 280 285  
 Val Ser Lys Phe Gly Thr Ile Phe Val Ser Val Ile Ser Phe Phe Ile  
 290 295 300  
 Ile Leu Lys Ser Tyr Ser Ser Leu Pro Ile Ser Ile Tyr Glu Ile Ser  
 305 310 315 320  
 Tyr Met Ser Thr Leu Ser Phe Val Phe Val Phe Ala Phe Pro His Ile  
 325 330 335  
 Pro Asn Ser Leu Ile Tyr Ile Ile Thr Met Leu Cys Ser Thr Tyr Thr  
 340 345 350  
 Lys Gly Ile Glu Leu Asn Val Ser Asn Ile Thr Pro Met Leu Pro Ile  
 355 360 365  
 Leu Ile Ser Leu Ala Leu Leu Ile Asp Phe Ala Phe Asn Ile Ala Ile  
 370 375 380  
 Ile His Ile Ile Asn Phe Lys Glu Leu Lys Asp Gln Glu Lys Ile Asn  
 385 390 395 400

<210> 153  
 <211> 348  
 <212> PRT  
 <213> Homo sapiens

<400> 153  
 Ile Glu Asn Ile Ile Glu Asn Lys Asn Phe Lys Lys Leu Phe Gly Lys  
 1 5 10 15  
 Thr Ile Tyr Tyr Gly Ile Leu Thr Asn Leu Ser Gly Val Ala Val Ser  
 20 25 30  
 Ile Ile Ala Ala Thr Ile Tyr Leu Pro Gln Arg Ile Pro Ile Leu Glu  
 35 40 45  
 Lys Thr Ile Gln Asn Thr Cys Phe Phe Glu Lys Glu Ala Leu Leu Glu  
 50 55 60  
 Thr Phe Phe Pro Lys Asn Ile Phe Lys Ile Phe Thr Ser Ser Asn Pro  
 65 70 75 80  
 Asn Leu Leu Ser Ile Tyr Met Ile Ser Ile Ile Ile Gly Thr Ser Phe  
 85 90 95  
 Tyr Tyr Ala Lys Gln Lys Gly Arg Ile Ala Arg Glu Leu Met Leu Ser

100	105	110
Ala Ser Asn Leu Phe Tyr His	Ala Asn Gly Phe Ile Val Asn Ile Leu	
115	120	125
Asn Ile Gly Ile Ile Phe Ile Thr Ala Asn Tyr Ala Ala Asn Leu Lys		
130	135	140
Asn Phe Lys Asp Tyr Pro Asn Tyr Thr Asn Ser Ile Thr Phe Phe Leu		
145	150	155
Ala Trp Thr Ile Ile Ile Leu Phe Val Ile Leu Pro Thr Ile Ser Tyr		
165	170	175
Arg Leu Thr Lys Ser Phe Lys Met Ile Tyr Lys Gly Ile Phe Val Ser		
180	185	190
Phe Gln Asn Ile Ile Phe Ser Gly Leu Ala Lys Asp Ser Tyr Ser Pro		
195	200	205
Tyr Val Ile Leu Ile Glu Asp Ile Lys Asn Glu Arg Ile Asn Ile Lys		
210	215	220
Lys Ser Ile Ile Ile Asn Ile Pro Leu Ile Asn Phe Val Ser Lys Phe		
225	230	235
Gly Thr Ile Phe Val Ser Val Ile Ser Phe Phe Ile Ile Leu Lys Ser		
245	250	255
Tyr Ser Ser Leu Pro Ile Ser Ile Tyr Glu Ile Ser Tyr Met Ser Thr		
260	265	270
Leu Ser Phe Val Phe Val Phe Ala Phe Pro His Ile Pro Asn Ser Leu		
275	280	285
Ile Tyr Ile Ile Thr Met Leu Cys Ser Thr Tyr Thr Lys Gly Ile Glu		
290	295	300
Leu Asn Val Ser Asn Ile Thr Pro Met Leu Pro Ile Leu Ile Ser Leu		
305	310	315
Ala Leu Leu Ile Asp Phe Ala Phe Asn Ile Ala Ile Ile His Ile Ile		
325	330	335
Asn Phe Lys Glu Leu Lys Asp Gln Glu Lys Ile Asn		
340	345	

&lt;210&gt; 154

&lt;211&gt; 1203

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 154

```

atgaatataa aaatcaattt ttttttcact ttgcctattg gaatcttttt aggattgttt 60
ttccctcttg gaatttatag ctcttatca catgctttta taagattatc atacttatct 120
cttattccct ttttaatat ttcaattcca ttaggaattg aaaatattat tgaaaaataaa 180
aactttaaaa agcttttttg taaaacaatt tattatggaa ttttaactaa cctatctgga 240
gttgctgtat caataatagc tgcaacaata tatcttcgc aaagaattcc aatactagaa 300

```



```

aaaacaatac aaaatacatg tttttttgaa aaagaagctt tactagaaac attctttcca 360
aaaaatattt tcaaaatatt tacatctagc aatccaaatc tactaagcat ttacatgatt 420
tcaataataa taggcacaag ttttttattat gcaaaacaaa aaggcagaat agctagagaa 480
ctgatgctaa gcgcattccaa tctttttttac catgcaaattg gggtttattgt aaacatatta 540
aatataggga tcattttttat aacagcaaatt tacgctgcaa acttaaaaaa cttcaaagat 600
tacccaaatt atacaaacag cataacattc tttttggcat ggacaattat aattttattc 660
gtaatatgtc caacaattag ttatagatta acaaaaagtt ttaaaatgat atataaaggc 720
atttttgtat catttcaaaa cataatattt tcaggacttg caaaaagattc ttattcccct 780
tatgtgatat taatagaaga tattaaaaaa gaaagaataa atataaaaaa atccataatt 840
ataaacatac ctttaataaa ttttgatatc aaatttggca ctatttttgt ttcagtaata 900
tcatttttta taatttttaa atcatattct agcttaccga tttctattta tgaaataagc 960
tatatgagca cttttatcatt tgtttttgtc tttgcatttc ctcatatacc aaatagttaa 1020
atztatataa ttacaatgct ttgctctaca tatacaaaag gaatagagct aaatgtttca 1080
aacataacac caatgctgcc gatattaatc tctttggctt tactaatcga ctttgctttt 1140
aacattgcaa tcattcatat aataaaactt aaagaattaa aagatcaaga aaaaattaat 1200
taa 1203

```

&lt;210&gt; 155

&lt;211&gt; 1047

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 155

```

attgaaaata ttattgaaaa taaaaacttt aaaaagcttt ttggtaaaaa aattttattat 60
ggaattttta ctaacctatc tggagttgct gtatcaataa tagctgcaac aatatatctt 120
ccgcaaagaa ttccaatact agaaaaaaca atacaaaata catgtttttt tgaaaaagaa 180
gctttactag aaacattctt tccaaaaaat attttcaaaa tatttacatc tagcaatcca 240
aatctactaa gcattttacat gatttcaata ataattaggca caagttttta ttatgcaaaa 300
caaaaaggca gaattagctag agaactgatg ctaagcgcat ccaatctttt ttaccatgca 360
aatgggttta ttgtaaacat attaaatata gggatcattt ttataacagc aaattacgct 420
gcaaacttaa aaaacttcaa agattaccca aattatacaa acagcataac attctttttg 480
gcatggacaa ttataatttt attcgtaata ttgccaacaa ttagttatag attaacaaaa 540
agtttttaaa tgatatataa aggcattttt gtatcatttc aaaacataat attttcagga 600
cttgcaaaag attcttattc cctttatgtg atattaatag aagatattaa aaacgaaaga 660
ataaatataa aaaaatccat aattataaac atacctttta taaattttgt atctaaattt 720
ggcactattt ttgtttcagt aatatcattt ttataattt taaaatcata ttctagctta 780
cccatttcta ttatgaaat aagctatatg agcattttat catttgttt tgtctttgca 840
tttcctcata taccaaatag tttaattttat ataattacaa tgctttgctc tacatatata 900
aaaggaatag agctaaatgt ttcaaacata acaccaatgc tgccgatatt aatctctttg 960
gctttactaa tcgactttgc ttttaacatt gcaatcattc atataataaa cttcaaagaa 1020
ttaaaagatc aagaaaaaat taattaa 1047

```

&lt;210&gt; 156

&lt;211&gt; 219

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 156

```

Met Lys Lys Glu Phe Ile Met Leu Leu Leu Leu Leu Gln Thr Ile Met
  1              5              10              15

```

```

Asn Leu Asn Ser Ile Asn Thr Asn Thr Ser Thr Ser Ile Val Lys Glu
      20              25              30

```

```

Leu Gln Lys Asn Leu Tyr Ile Phe Asn Ser Lys Glu Tyr Gln Lys Asp
      35              40              45

```

```

Lys Asp Thr Leu Asn Glu Phe Ile Asn Ser Ile Asn Ile Asn Asp Lys

```

50		55		60
Glu Ile Leu Gln Ser Leu Glu Lys Ile Lys Asn Glu Leu Phe Ile Ile				
65		70		75 80
Ser Val Phe Phe Asn Asn Lys Lys Gly Ile Leu Ile Ala Leu Asn Leu				
	85		90	95
Gly Ala Glu Ile Asn Phe Lys Tyr Lys Ile Ser Pro Ile Ser Ile Ser				
	100		105	110
Ile Ile Asn Asn Glu Phe Glu Ile Thr Lys Ile Leu Ile Asp Tyr Gly				
	115		120	125
Ile Ser Leu Asn Gln Ile Asp Asp Thr Gly Tyr Ser Pro Ile Phe Trp				
	130		135	140
Ala Ile Tyr Thr Asn Asn Glu Lys Ile Phe Glu Phe Leu Lys Glu Ser				
	145		150	155 160
Gly Ala Asp Leu Ser Phe Thr Leu Lys Asn Arg Lys Thr Pro Met Gln				
	165		170	175
Ala Ala Ile Glu Thr Glu Asn Ile Lys Leu Ile Lys Ser Leu Glu Lys				
	180		185	190
Lys Lys Ile Tyr Ile Asp Asp Asn Phe Lys Lys Lys Leu Lys Lys Leu				
	195		200	205
Lys Asn Lys Glu Ile Val Arg Ile Leu Val Lys				
	210		215	

<210> 157  
 <211> 201  
 <212> PRT  
 <213> Homo sapiens

<400> 157
Asn Ser Ile Asn Thr Asn Thr Ser Thr Ser Ile Val Lys Glu Leu Gln
1 5 10 15
Lys Asn Leu Tyr Ile Phe Asn Ser Lys Glu Tyr Gln Lys Asp Lys Asp
20 25 30
Thr Leu Asn Glu Phe Ile Asn Ser Ile Asn Ile Asn Asp Lys Glu Ile
35 40 45
Leu Gln Ser Leu Glu Lys Ile Lys Asn Glu Leu Phe Ile Ile Ser Val
50 55 60
Phe Phe Asn Asn Lys Lys Gly Ile Leu Ile Ala Leu Asn Leu Gly Ala
65 70 75 80
Glu Ile Asn Phe Lys Tyr Lys Ile Ser Pro Ile Ser Ile Ser Ile Ile
85 90 95
Asn Asn Glu Phe Glu Ile Thr Lys Ile Leu Ile Asp Tyr Gly Ile Ser
100 105 110

Leu Asn Gln Ile Asp Asp Thr Gly Tyr Ser Pro Ile Phe Trp Ala Ile  
 115 120 125

Tyr Thr Asn Asn Glu Lys Ile Phe Glu Phe Leu Lys Glu Ser Gly Ala  
 130 135 140

Asp Leu Ser Phe Thr Leu Lys Asn Arg Lys Thr Pro Met Gln Ala Ala  
 145 150 155 160

Ile Glu Thr Glu Asn Ile Lys Leu Ile Lys Ser Leu Glu Lys Lys Lys  
 165 170 175

Ile Tyr Ile Asp Asp Asn Phe Lys Lys Lys Leu Lys Lys Leu Lys Asn  
 180 185 190

Lys Glu Ile Val Arg Ile Leu Val Lys  
 195 200

<210> 158

<211> 660

<212> DNA

<213> Homo sapiens

<400> 158

atgaaaaaag aattcattat gcttttactg ttattgcaaa caataatgaa tttaaactca 60  
 ataaatacta atacaagtac ttcaatagta aaagaattgc aaaaaaattt atatattttc 120  
 aatagcaaag aatatcaaaa agataaagac actttaaatg aattttataaa ttcaataaaat 180  
 ataaatgaca aagaaatctt acaaagttta gaaaaaatca aaaatgagct ttttataata 240  
 tctgtttttt tcaacaataa aaaagggatt ttaattgcac taaatcttgg agcagaaata 300  
 aactttaaat ataaaatatt tccaattttca atttcaataa taaacaatga atttgaaatc 360  
 acaaaaaatat tgatagatta cggaataagc cttaatcaaa tagatgatac aggttattct 420  
 ccaatatattt gggcaatata tactaataac gaaaaaatat ttgaattttt aaaagaaagc 480  
 ggagctgatt taagtctcac acttaaaaat agaaaaaacac caatgcaagc cgcaatagaa 540  
 acagaaaata taaaactaat taaatctctg gaaaagaaaa aaattttacat tgacgacaat 600  
 ttcaaaaaaa aacttaaaaa gcttaaaaac aaagaaatag ttcgaatttt agtaaaaatag 660

<210> 159

<211> 606

<212> DNA

<213> Homo sapiens

<400> 159

aactcaataa atactaatac aagtactttca atagtataaag aattgcaaaa aaattttatat 60  
 attttcaata gcaaagaata tcaaaaagat aaagacactt taaatgaatt tataaattca 120  
 ataaatataa atgacaaaga aatctttacaa agtttagaaa aaatcaaaaa tgagcttttt 180  
 ataatatctg tttttttcaa caataaaaaa gggattttta ttgcactaaa tcttgaggca 240  
 gaaataaaact ttaaatataa aatatctcca atttcaattt caataataaa caatgaattt 300  
 gaaatcacaa aaatattgat agattacgga ataagcctta atcaaataga tgatacaggt 360  
 tattctccaa tattttgggc aatatatact aataacgaaa aaatatttga atttttaaaa 420  
 gaaagcggag ctgatttaag tttcacactt aaaaatagaa aaacaccaat gcaagccgca 480  
 atagaaacag aaaatataaa actaattaaa tctctggaaa agaaaaaaat ttacattgac 540  
 gacaatttca aaaaaaaact taaaaagctt aaaaacaaag aaatagttcg aatttttagta 600  
 aaatag 606

<210> 160

<211> 178

<212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 160

Met Thr Lys Asn Arg Ile Ile Trp Leu Leu Val Leu Met Val Ser Ser  
 1 5 10 15

Thr Phe Thr Ala Thr Ile Ile Ser Asn Tyr Gln Asn Leu Met Leu Ser  
 20 25 30

Leu Val Val Leu Ala Asn Phe Ile Pro Leu Leu Met Asp Thr Ser Gly  
 35 40 45

Asn Ala Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala Leu  
 50 55 60

Gly Thr Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu Ile  
 65 70 75 80

Cys Val Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe Leu  
 85 90 95

Arg Ile Val Phe Phe Val Ala Pro His His Ser Asp Lys Leu Lys Ile  
 100 105 110

Ala Phe Val Val Ser Ser Cys Leu Met Val Ser Leu Thr Val Ala Lys  
 115 120 125

Ile Leu Gly Gly Leu Leu Pro Ile Val Ala Lys Leu Leu Lys Leu Asp  
 130 135 140

Pro Ala Leu Met Ala Gly Pro Leu Ile Thr Thr Ile Ala Asp Ala Ile  
 145 150 155 160

Thr Leu Ile Ala Tyr Phe Asn Ile Ala Lys Trp Val Leu Val Ser Tyr  
 165 170 175

Ala Val

&lt;210&gt; 161

&lt;211&gt; 163

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 161

Ser Thr Phe Thr Ala Thr Ile Ile Ser Asn Tyr Gln Asn Leu Met Leu  
 1 5 10 15

Ser Leu Val Val Leu Ala Asn Phe Ile Pro Leu Leu Met Asp Thr Ser  
 20 25 30

Gly Asn Ala Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala  
 35 40 45

Leu Gly Thr Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu  
 50 55 60

Ile Cys Val Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe

65						70						75					80
Leu	Arg	Ile	Val	Phe	Phe	Val	Ala	Pro	His	His	Ser	Asp	Lys	Leu	Lys		
				85					90					95			
Ile	Ala	Phe	Val	Val	Ser	Ser	Cys	Leu	Met	Val	Ser	Leu	Thr	Val	Ala		
			100					105					110				
Lys	Ile	Leu	Gly	Gly	Leu	Leu	Pro	Ile	Val	Ala	Lys	Leu	Leu	Lys	Leu		
		115					120					125					
Asp	Pro	Ala	Leu	Met	Ala	Gly	Pro	Leu	Ile	Thr	Thr	Ile	Ala	Asp	Ala		
	130					135					140						
Ile	Thr	Leu	Ile	Ala	Tyr	Phe	Asn	Ile	Ala	Lys	Trp	Val	Leu	Val	Ser		
145					150					155					160		

Tyr Ala Val

```
<210> 162
<211> 537
<212> DNA
<213> Homo sapiens
```

400						162
atgacaaaaa	atagaataat	ttggctttta	gttcttatgg	tgtcttctac	ttttacagct	60
acaattat	caaattatca	aaattttaatg	ttgtcttttag	tgggttttagc	taattttatt	120
cccttttta	tggatacttc	aggcaatgcc	ggctctcagg	catctgcgct	aataattcgt	180
gagcttgctc	ttggtactgt	caaggtaaaa	gattttttta	aagtgttttt	aaaggaaata	240
tgtgttagca	ttctagtggg	agcaattctt	gctagtgtta	atttttttaag	aattgtcttt	300
ttttagtagc	tcacaccattc	tgataagctg	aaaatagctt	ttgttagtttc	atcttgcttg	360
attggaagtt	tgacagtagc	aaagatatgg	ggaggtcttt	taccattgt	tgctaaactt	420
ttaaagttgg	atccagcact	tatggcaggc	cctttaatca	ctacaattgc	agatgctatt	480
actttaatag	cttattttta	tatagcaaaa	tgggttttag	ttagctatgc	tgtttaa	537

```
<210> 163
<211> 492
<212> DNA
<213> Homo sapiens
```

```

<400> 163
tctactttta cagctacaat tatttcaaat tatcaaaatt taatgttgct tttagtgggt 60
ttagctaatt ttattccctt tttaatggat acttcaggca atgccggctc tcaggcatct 120
gcgctaataa ttcgtgagct tgctcttggt actgtcaagg taaaagattt ttttaaagtg 180
tttttaaagg aaatatgtgt tagcattcta gtgggagcaa ttcttgctag tgtaatttt 240
ttaagaattg tcttttttgt agctccacac cattctgata agctgaaaaa agcttttgt 300
gtttcatctt gcttgatggt aagtttgaca gtaccaaaga tattgggagg tctttttacc 360
attgttgcta aactttttaa gttggatcca gcacttatgg caggcccttt aatcactaca 420
attgcagatg ctattacttt aatagcttat tttaatatag caaaatgggt tttagtttagc 480
tatgctgttt aa                                     492

```

```
<210> 164
<211> 178
<212> PRT
<213> Homo sapiens
```

<400> 164

Met Thr Lys Asn Arg Ile Ile Trp Leu Leu Val Leu Met Val Ser Ser  
 1 5 10 15  
 Thr Phe Thr Ala Thr Ile Ile Ser Asn Tyr Gln Asn Leu Met Leu Ser  
 20 25 30  
 Leu Val Val Leu Ala Asn Phe Ile Pro Leu Leu Met Asp Thr Ser Gly  
 35 40 45  
 Asn Ala Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala Leu  
 50 55 60  
 Gly Thr Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu Ile  
 65 70 75 80  
 Cys Val Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe Leu  
 85 90 95  
 Arg Ile Val Phe Phe Val Ala Pro His His Ser Asp Lys Leu Lys Ile  
 100 105 110  
 Ala Phe Val Val Ser Ser Cys Leu Met Val Ser Leu Thr Val Ala Lys  
 115 120 125  
 Ile Leu Gly Gly Leu Leu Pro Ile Val Ala Lys Leu Leu Lys Leu Asp  
 130 135 140  
 Pro Ala Leu Met Ala Gly Pro Leu Ile Thr Thr Ile Ala Asp Ala Ile  
 145 150 155 160  
 Thr Leu Ile Ala Tyr Phe Asn Ile Ala Lys Trp Val Leu Val Ser Tyr  
 165 170 175  
 Ala Val

<210> 165  
 <211> 128  
 <212> PRT  
 <213> Homo sapiens

<400> 165  
 Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala Leu Gly Thr  
 1 5 10 15  
 Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu Ile Cys Val  
 20 25 30  
 Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe Leu Arg Ile  
 35 40 45  
 Val Phe Phe Val Ala Pro His His Ser Asp Lys Leu Lys Ile Ala Phe  
 50 55 60  
 Val Val Ser Ser Cys Leu Met Val Ser Leu Thr Val Ala Lys Ile Leu  
 65 70 75 80  
 Gly Gly Leu Leu Pro Ile Val Ala Lys Leu Leu Lys Leu Asp Pro Ala

85

90

95

Leu Met Ala Gly Pro Leu Ile Thr Thr Ile Ala Asp Ala Ile Thr Leu  
 100 105 110

Ile Ala Tyr Phe Asn Ile Ala Lys Trp Val Leu Val Ser Tyr Ala Val  
 115 120 125

&lt;210&gt; 166

&lt;211&gt; 537

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 166

atgacaaaaa atagaataat ttggcttttta gttctttatgg tgtcttctac ttttacagct 60  
 acaattatatt caaattatca aaattttaatg ttgtcttttag tggtttttagc taatttttatt 120  
 cccctttttaa tggatacttc aggcaatgcc ggctctcagg catctgcgct aataattcgt 180  
 gagcttgctc ttggtactgt caaggtaaaa gattttttta aagtgttttt aaaggaaata 240  
 tgtgttagca ttctagtggg agcaattctt gctagtgtta attttttaag aattgtcttt 300  
 tttgtagctc cacaccattc tgataagctg aaaatagctt ttgtagtctt atcttgcttg 360  
 atggttaagtt tgacagtagc aaagatatgg ggaggtcttt taccattgt tgctaaactt 420  
 ttaaagttgg atccagcact tatggcaggc cctttaatca ctacaattgc agatgctatt 480  
 actttaatag cttattttta tatagcaaaa tgggttttag ttagctatgc tgtttaa 537

&lt;210&gt; 167

&lt;211&gt; 387

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 167

ggctctcagg catctgcgct aataattcgt gagcttgctc ttggtactgt caaggtaaaa 60  
 gattttttta aagtgttttt aaaggaaata tgtgttagca ttctagtggg agcaattctt 120  
 gctagtgtta attttttaag aattgtcttt tttgtagctc cacaccattc tgataagctg 180  
 aaaatagctt ttgtagtctt atcttgcttg atggttaagtt tgacagtagc aaagatatgg 240  
 ggaggtcttt taccattgt tgctaaactt ttaaagttgg atccagcact tatggcaggc 300  
 cctttaatca ctacaattgc agatgctatt actttaatag cttattttta tatagcaaaa 360  
 tgggttttag ttagctatgc tgtttaa 387

&lt;210&gt; 168

&lt;211&gt; 373

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 168

Met Arg Ile Lys Asn Leu Ile Leu Ile Ala Ile Leu Leu Ile Ser Pro  
 1 5 10 15

Ser Cys Ser Thr Asn Lys Asn Ile Val Val Leu Thr Asp Asn Lys Thr  
 20 25 30

Ile Pro Phe Tyr Ile Asn Gln Phe Asn Ile Glu Asn Lys Ala Asn Phe  
 35 40 45

Ile Ile Lys Phe Arg Asn Asn Ile Asp Leu Gln Thr Ile Glu Lys Glu  
 50 55 60

Asn	Ala	Gln	Ile	Ile	Ile	Ser	Lys	Asn	Ile	Gly	Asn	Thr	Asn	Ile	Ala	65	70	75	80
Asn	His	Phe	Lys	Ser	Val	Lys	Ile	Asn	Tyr	Asn	Pro	Asp	Tyr	Pro	Ile	85	90	95	
Leu	Lys	His	Ile	Phe	Lys	Gln	Phe	Asn	Tyr	Lys	Ile	Ile	Pro	Leu	Gly	100	105	110	
Phe	Asp	Ile	Pro	Ile	Leu	Ile	Tyr	Lys	Asn	Thr	His	His	Ile	Lys	Lys	115	120	125	
Tyr	Ile	Asn	Thr	Lys	Tyr	Leu	Lys	Glu	Glu	Tyr	Glu	Asn	Phe	Ile	Lys	130	135	140	
Asp	Gly	Lys	Phe	Phe	Ile	Ser	Pro	Tyr	Val	Ser	Glu	Asn	Leu	Phe	Tyr	145	150	155	160
Val	Ile	Ser	Gln	Ile	Asn	Asn	Val	Arg	Phe	Ser	Phe	Glu	Lys	Asn	Lys	165	170		175
Leu	Asn	Tyr	Asn	Glu	Asn	Gln	Ile	Leu	Lys	Met	Leu	Glu	Tyr	Phe	Ser	180	185		190
Ser	Phe	Leu	Asn	Thr	Lys	Gln	Met	Asp	Leu	Gln	Lys	Asp	Phe	Phe	Asn	195	200	205	
Lys	Tyr	Gly	Tyr	Leu	Lys	Leu	Asn	Lys	Ile	Leu	Leu	Asn	Lys	Lys	Ser	210	215	220	
Leu	Leu	Ile	Ala	Gly	Leu	Ser	Asp	Ile	Thr	Phe	Tyr	Asn	Ser	Leu	Ser	225	230	235	240
Glu	Gln	Glu	Lys	Ser	Gln	Ile	Lys	Phe	Ser	Tyr	Leu	Ile	Asn	Asp	Asn	245	250		255
Asn	Glu	Ile	Val	Ile	Ser	Asn	Pro	Asn	Phe	Ile	Gly	Ile	Leu	Glu	Thr	260	265		270
Ser	Val	Leu	Thr	Lys	Lys	Phe	Ile	Asn	Trp	Ile	Leu	Tyr	Lys	Lys	Thr	275	280	285	
Gln	Lys	Thr	Leu	Ile	Gly	Phe	Asn	Asn	Gln	Ser	Gln	Ser	Asn	Ile	Cys	290	295	300	
Phe	Gly	Phe	Ala	Asn	Gly	Phe	Thr	Pro	Tyr	Lys	Glu	Leu	Asn	Leu	Lys	305	310	315	320
Ile	Lys	His	Ser	Ile	Asp	Gly	Ile	Ser	Pro	Phe	Ile	Ile	Asp	Glu	Thr	325	330		335
Gln	Ile	Asn	Ser	His	Ser	Tyr	Val	Leu	Ser	Lys	Lys	Thr	Ile	Glu	Lys	340	345		350
Glu	Asn	Leu	Leu	Ile	Asn	Glu	Trp	Phe	Phe	Ser	Lys	Ala	Asn	Asn	Leu	355	360	365	



Lys Lys Asn Lys Asn  
370

<210> 169

<211> 353

<212> PRT

<213> Homo sapiens

<400> 169

Asn Lys Asn Ile Val Val Leu Thr Asp Asn Lys Thr Ile Pro Phe Tyr  
1 5 10 15

Ile Asn Gln Phe Asn Ile Glu Asn Lys Ala Asn Phe Ile Ile Lys Phe  
20 25 30

Arg Asn Asn Ile Asp Leu Gln Thr Ile Glu Lys Glu Asn Ala Gln Ile  
35 40 45

Ile Ile Ser Lys Asn Ile Gly Asn Thr Asn Ile Ala Asn His Phe Lys  
50 55 60

Ser Val Lys Ile Asn Tyr Asn Pro Asp Tyr Pro Ile Leu Lys His Ile  
65 70 75 80

Phe Lys Gln Phe Asn Tyr Lys Ile Ile Pro Leu Gly Phe Asp Ile Pro  
85 90 95

Ile Leu Ile Tyr Lys Asn Thr His His Ile Lys Lys Tyr Ile Asn Thr  
100 105 110

Lys Tyr Leu Lys Glu Glu Tyr Glu Asn Phe Ile Lys Asp Gly Lys Phe  
115 120 125

Phe Ile Ser Pro Tyr Val Ser Glu Asn Leu Phe Tyr Val Ile Ser Gln  
130 135 140

Ile Asn Asn Val Arg Phe Ser Phe Glu Lys Asn Lys Leu Asn Tyr Asn  
145 150 155 160

Glu Asn Gln Ile Leu Lys Met Leu Glu Tyr Phe Ser Ser Phe Leu Asn  
165 170 175

Thr Lys Gln Met Asp Leu Gln Lys Asp Phe Phe Asn Lys Tyr Gly Tyr  
180 185 190

Leu Lys Leu Asn Lys Ile Leu Leu Asn Lys Lys Ser Leu Leu Ile Ala  
195 200 205

Gly Leu Ser Asp Ile Thr Phe Tyr Asn Ser Leu Ser Glu Gln Glu Lys  
210 215 220

Ser Gln Ile Lys Phe Ser Tyr Leu Ile Asn Asp Asn Asn Glu Ile Val  
225 230 235 240

Ile Ser Asn Pro Asn Phe Ile Gly Ile Leu Glu Thr Ser Val Leu Thr  
245 250 255

Lys Lys Phe Ile Asn Trp Ile Leu Tyr Lys Lys Thr Gln Lys Thr Leu

260 265 270

Ile Gly Phe Asn Asn Gln Ser Gln Ser Asn Ile Cys Phe Gly Phe Ala  
 275 280 285

Asn Gly Phe Thr Pro Tyr Lys Glu Leu Asn Leu Lys Ile Lys His Ser  
 290 295 300

Ile Asp Gly Ile Ser Pro Phe Ile Ile Asp Glu Thr Gln Ile Asn Ser  
 305 310 315 320

His Ser Tyr Val Leu Ser Lys Lys Thr Ile Glu Lys Glu Asn Leu Leu  
 325 330 335

Ile Asn Glu Trp Phe Phe Ser Lys Ala Asn Asn Leu Lys Lys Asn Lys  
 340 345 350

Asn

<210> 170  
 <211> 1122  
 <212> DNA  
 <213> Homo sapiens

<400> 170

atgagaataa	aaaattttaat	actaatagca	attttatttaa	ttagccctag	ctgttcaaca	60
aataagaaca	tcgttggtact	aactgacaat	aaaacaatac	cattttatat	aaatcaattt	120
aatatagaaa	ataaagcaaa	ttttataatt	aagtttagaa	ataatattga	tctgcaaaca	180
atagaaaaag	aaaatgcaca	aataattatt	tctaaaaaca	ttggtaacac	aaatattgct	240
aaccatttta	aatctgtaaa	aatcaattat	aatccagatt	atcctatctt	aaagcatatt	300
ttcaagcaat	ttaactacaa	aattattcca	ttgggctttg	acattcctat	tttaattctat	360
aaaaatacac	atcatattaa	aaaatacata	aacactaaat	atctaaaaga	agaatacgaa	420
aatttcatta	aagatggaaa	attttttata	tcgccttatg	tttctgaaaa	tttattttat	480
gtgattttct	aaataaataa	tgtgagattt	tcttttgaaa	aaaataaatt	aaattataat	540
gagaatcaaa	ttttaaaaat	gctagaatat	ttctcatcat	ttttaaatac	aaaacaaatg	600
gacttgcaaa	aagatttctt	taataaatac	ggctaccta	agttaaataa	aatattgctt	660
aataaaaaat	ctctttttaat	agcaggattg	agcgatataa	ccttctacaa	tagcttaagc	720
gaacaagaga	agtcacaaat	aaaatttttc	tatttaataa	acgataacaa	tgaaattggt	780
atctcaaacc	caaattttat	tggcatttta	gaaacatctg	ttttaactaa	aaaattttatc	840
aactggatat	tgtataaaaa	aactcaaaaa	accctaattg	gatttaacaa	tcaatcccaa	900
tcaaatatat	gttttggtt	tgccaatggt	tttaccctt	acaaagaatt	aaatttaaaa	960
ataaaacatt	caattgatgg	aatatctcct	tttattattg	acgaaactca	aatcaatagc	1020
cattcctatg	tattaagcaa	aaaaacaatt	gaaaaagaaa	acttactaat	aaatgaatgg	1080
tttttctcta	aagctaataa	tctaaaaaaa	aataaaaaatt	aa		1122

<210> 171  
 <211> 1062  
 <212> DNA  
 <213> Homo sapiens

<400> 171

aataagaaca	tcgttggtact	aactgacaat	aaaacaatac	cattttatat	aaatcaattt	60
aatatagaaa	ataaagcaaa	ttttataatt	aagtttagaa	ataatattga	tctgcaaaca	120
atagaaaaag	aaaatgcaca	aataattatt	tctaaaaaca	ttggtaacac	aaatattgct	180
aaccatttta	aatctgtaaa	aatcaattat	aatccagatt	atcctatctt	aaagcatatt	240
ttcaagcaat	ttaactacaa	aattattcca	ttgggctttg	acattcctat	tttaattctat	300
aaaaatacac	atcatattaa	aaaatacata	aacactaaat	atctaaaaga	agaatacgaa	360

```

aatttcatta aagatggaaa attttttata tgcgccttatg tttctgaaaa tttattttat 420
gtgattttctc aaataaataa tgtgagattt tcttttgaaa aaaataaatt aaattataat 480
gagaatcaaaa ttttaaaaat gctagaatat ttctcatcat ttttaaatatc aaaacaaatg 540
gacttgcaaaa aagattttctt taataaatatc ggctacctaa agttaaataa aatattgctt 600
aataaaaaaat ctctttttaat agcaggattg agcgatataa ccttctacaa tagcttaagc 660
gaacaagaga agtcacaaat aaaattttcc tatttaataa acgataacaa tgaaattggt 720
atctcaaacc caaatttttat tggcattttta gaaacatctg ttttaactaa aaaattttatc 780
aactggatat tgtataaaaa aactcaaaaa accctaattg gatttaacaa tcaatcccaa 840
tcaaatatat gttttggatt tgccaatggt ttaccctt acaaagaatt aaatttaaaa 900
ataaaacatt caattgatgg aatatctcct tttattattg acgaaactca aatcaatagc 960
cattcctatg tattaagcaa aaaaacaatt gaaaaagaaa acttactaat aaatgaatgg 1020
tttttctcta aagctaataa tctaaaaaaa aataaaaatt aa 1062

```

&lt;210&gt; 172

&lt;211&gt; 216

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 172

```

Met Ile Lys Thr Ile Leu Leu Leu Val Leu Tyr Pro Val Val Val Phe
 1             5             10             15

```

```

Ser Gln Ile Ser Ala Asn Gln Tyr Phe Glu Gly Ile Tyr Ala Lys Tyr
      20             25             30

```

```

Gln Asn Ile Glu Asp Met Gln Ala Thr Ile Asn Phe Thr Leu Lys Gly
      35             40             45

```

```

Leu Lys Gln Thr Gly Val Leu Leu Tyr Lys Phe Pro Asp Lys Phe Ile
      50             55             60

```

```

Ile Asn Leu Asp Ser Asn Asn Gln Val Phe Val Ser Asp Gly Glu Phe
      65             70             75             80

```

```

Leu Thr Val Tyr Val Pro Ser Leu Gly Thr Ser Phe Asn Gln Gln Leu
      85             90             95

```

```

Leu Lys Gly Ser Ser Gly Gly Gly Leu Met Lys Val Leu Asn Ser Glu
      100            105            110

```

```

Tyr Ser Val Ser Tyr Thr Asn Ser Pro Asn Leu Glu Asp Leu Asp Ser
      115            120            125

```

```

Ser Glu Pro Gly Lys Tyr Ile Lys Leu Thr Phe Ser Arg Lys Leu Tyr
      130            135            140

```

```

Lys Gly Ala Ala Thr Ile Asn Ser Phe Ile Ile Ala Phe Ala Pro Asp
      145            150            155            160

```

```

Gly Ile Ile Arg Arg Ile Thr Ala Phe Pro Thr Ser Gly Gly Arg Glu
      165            170            175

```

```

Ile Val Ile Asp Leu Thr Ala Val Lys Phe Asn Val Gly Ile Leu Asp
      180            185            190

```

```

Ser Lys Phe Lys Tyr Asp Pro Pro Lys Ser Ser Asn Lys Val Asp Asn
      195            200            205

```

Phe Leu Tyr Asp Ile Lys Lys Asn  
210 215

<210> 173

<211> 199

<212> PRT

<213> Homo sapiens

<400> 173

Gln Ile Ser Ala Asn Gln Tyr Phe Glu Gly Ile Tyr Ala Lys Tyr Gln  
1 5 10 15

Asn Ile Glu Asp Met Gln Ala Thr Ile Asn Phe Thr Leu Lys Gly Leu  
20 25 30

Lys Gln Thr Gly Val Leu Leu Tyr Lys Phe Pro Asp Lys Phe Ile Ile  
35 40 45

Asn Leu Asp Ser Asn Asn Gln Val Phe Val Ser Asp Gly Glu Phe Leu  
50 55 60

Thr Val Tyr Val Pro Ser Leu Gly Thr Ser Phe Asn Gln Gln Leu Leu  
65 70 75 80

Lys Gly Ser Ser Gly Gly Gly Leu Met Lys Val Leu Asn Ser Glu Tyr  
85 90 95

Ser Val Ser Tyr Thr Asn Ser Pro Asn Leu Glu Asp Leu Asp Ser Ser  
100 105 110

Glu Pro Gly Lys Tyr Ile Lys Leu Thr Phe Ser Arg Lys Leu Tyr Lys  
115 120 125

Gly Ala Ala Thr Ile Asn Ser Phe Ile Ile Ala Phe Ala Pro Asp Gly  
130 135 140

Ile Ile Arg Arg Ile Thr Ala Phe Pro Thr Ser Gly Gly Arg Glu Ile  
145 150 155 160

Val Ile Asp Leu Thr Ala Val Lys Phe Asn Val Gly Ile Leu Asp Ser  
165 170 175

Lys Phe Lys Tyr Asp Pro Pro Lys Ser Ser Asn Lys Val Asp Asn Phe  
180 185 190

Leu Tyr Asp Ile Lys Lys Asn  
195

<210> 174

<211> 651

<212> DNA

<213> Homo sapiens

<400> 174

atgataaaaa caatactttt attagttttg taccctgttg ttgtgttttc tcaaataatct 60  
gcaaataaat attttgaagg aatttatgct aaatatcaaa atatagagga catgcaagca 120  
acaattaatt ttactttaaa ggggttaaag caaacagggtg ttttgcttta taagttttcca 180  
gacaagttta ttatcaattt agattcaaat aatcaagttt ttgtaagtga tgggtgaattt 240

```

ttgacagttt atgttccatc tcttgggact tcttttaatc agcaattatt aaagggtagt 300
agtgggggag gtcttatgaa agttttaaat agtgagtata gcgtatctta taccaattct 360
ccaaatttag aagatctcga ttcattctgag cctggaaaat atattaaatt aaccttttct 420
agaaaagcttt acaagggggc tgctactatt aattctttta ttattgcttt tgctccggat 480
ggaataatta gaagaattac tgcttttcct actagtgggtg ggcgcgaaat agttattgat 540
ttgactgctg tgaagtttaa tgttgggaatt cttgatagca aatttaaata tgatcctcca 600
aaatcttcaa ataaggtaga taatttttta tatgatatta aaaaaaatta a 651

```

<210> 175

<211> 600

<212> DNA

<213> Homo sapiens

<400> 175

```

caaatatctg caaatcaata ttttgaagga atttatgcta aatatcaaaa tatagaggac 60
atgcaagcaa caattaattt tacttttaaag gggtttaaagc aaacaggtgt tttgctttat 120
aagtttccag acaagtttat tatcaattta gattcaaaata atcaagtttt tgtaagtgat 180
ggtgaatttt tgacagttta tgttccatct cttgggactt cttttaatca gcaattatta 240
aagggtagta gtgggggagg tcttatgaaa gttttaaata gtgagtatag cgtatcttat 300
accaattctc caaatttaga agatctcgat tcatctgagc ctggaaaata tattaaatta 360
accttttcta gaaagcttta caagggggct gctactatta attcttttat tattgctttt 420
gtcccggtg gaataattag aagaattact gcttttccta ctagtgggtg gcgcgaaata 480
gttattgatt tgactgctgt gaagtttaat gttggaattc ttgatagcaa atttaaata 540
gatcctccaa aatcttcaaa taaggtagat aattttttat atgatattaa aaaaaattaa 600

```

<210> 176

<211> 251

<212> PRT

<213> Homo sapiens

<400> 176

```

Met Lys.Glu Arg Cys Leu Tyr Leu Leu Val Phe Val Ala Leu Cys Val
  1                      5                      10                      15

Asn Asn Leu Phe Ser Asp Asp Tyr Leu Ile Tyr Asp Phe Asp Leu Ser
      20                      25                      30

Leu Asn Glu Phe Leu Glu Val Ser Thr Arg Lys Asp Asn Leu Glu Pro
      35                      40                      45

Met Val Asp Ser Asn Arg Ile Leu Leu Phe Tyr Pro Pro Lys Lys Glu
      50                      55                      60

Ile Arg Lys Ile Phe Ala Ala Phe Asp Phe Asp Gln Tyr Ser Lys Lys
      65                      70                      75                      80

Tyr Leu Phe Lys Lys Asn Glu His Gly Val Phe Phe Val Lys Val Asn
      85                      90                      95

Ile Pro His Gly Thr Ser Ser Ile Lys Tyr Arg Leu Ile Val Asp Gly
      100                      105                      110

Val Trp Thr Asn Asp Glu Tyr Asn Lys Asn Val Val Tyr Asn Glu Asp
      115                      120                      125

Leu Ile Pro Phe Ser Lys Ile Glu Ile Ala Lys Glu Lys Ser Ser Tyr
      130                      135                      140

```

Ile Ser Leu Arg Asn Pro Ile Gln Ser Tyr Asp Asn Asn Glu Ile Glu  
145 150 155 160

Ile Phe Tyr Ile Gly Arg Pro Gly Gln Ile Val Thr Ile Ala Gly Ser  
165 170 175

Phe Asn Asn Phe Asn Pro Phe Leu Asn Arg Leu Ile Glu Lys Glu Asp  
180 185 190

Asn Lys Gly Ile Tyr Thr Ile Lys Leu Lys Asn Leu Pro Lys Asp Arg  
195 200 205

Ile Tyr Tyr Tyr Phe Ile Asp Ser Gly Asn Lys Val Ile Asp Lys Asn  
210 215 220

Asn Val Asn Arg Ile Asn Leu Tyr Phe Val Glu Gly Ile Asp Asn Lys  
225 230 235 240

Ile Asp Phe Glu Val Ser Tyr Phe Asp His Lys  
245 250

<210> 177

<211> 230

<212> PRT

<213> Homo sapiens

<400> 177

Asp Asp Tyr Leu Ile Tyr Asp Phe Asp Leu Ser Leu Asn Glu Phe Leu  
1 5 10 15

Glu Val Ser Thr Arg Lys Asp Asn Leu Glu Pro Met Val Asp Ser Asn  
20 25 30

Arg Ile Leu Leu Phe Tyr Pro Pro Lys Lys Glu Ile Arg Lys Ile Phe  
35 40 45

Ala Ala Phe Asp Phe Asp Gln Tyr Ser Lys Lys Tyr Leu Phe Lys Lys  
50 55 60

Asn Glu His Gly Val Phe Phe Val Lys Val Asn Ile Pro His Gly Thr  
65 70 75 80

Ser Ser Ile Lys Tyr Arg Leu Ile Val Asp Gly Val Trp Thr Asn Asp  
85 90 95

Glu Tyr Asn Lys Asn Val Val Tyr Asn Glu Asp Leu Ile Pro Phe Ser  
100 105 110

Lys Ile Glu Ile Ala Lys Glu Lys Ser Ser Tyr Ile Ser Leu Arg Asn  
115 120 125

Pro Ile Gln Ser Tyr Asp Asn Asn Glu Ile Glu Ile Phe Tyr Ile Gly  
130 135 140

Arg Pro Gly Gln Ile Val Thr Ile Ala Gly Ser Phe Asn Asn Phe Asn  
145 150 155 160

Pro Phe Leu Asn Arg Leu Ile Glu Lys Glu Asp Asn Lys Gly Ile Tyr

```
<210> 178
<211> 756
<212> DNA
<213> Homo sapiens
```

```
<210> 179
<211> 693
<212> DNA
<213> Homo sapiens
```

```
<210> 180
<211> 129
<212> PRT
<213> Homo sapiens
```

&lt;400&gt; 180

Met Arg Gln Arg Val Met Ile Ala Met Ala Leu Ser Cys His Pro Ser  
 1 5 10 15

Leu Leu Ile Ala Asp Glu Pro Thr Thr Ala Leu Asp Val Thr Ile Gln  
 20 25 30

Glu Gln Ile Leu Leu Leu Ile Lys Asn Leu Ser Lys Lys Phe Asn Thr  
 35 40 45

Ser Thr Ile Phe Ile Thr His Asp Leu Ala Val Val Ala Glu Ile Cys  
 50 55 60

Asp Thr Val Ser Val Met Tyr Gln Gly Lys Ile Val Glu Glu Gly Thr  
 65 70 75 80

Val Glu Glu Ile Phe Asn Asn Pro Lys His Pro Tyr Thr Ile Gly Leu  
 85 90 95

Leu Lys Ser Ile Leu Thr Leu Glu His Asp Pro Asn Lys Lys Leu Tyr  
 100 105 110

Ser Thr Lys Glu Asn Pro Met Lys Ile Thr Lys Thr Ser Thr Glu Glu  
 115 120 125

Phe

&lt;210&gt; 181

&lt;211&gt; 108

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 181

Glu Pro Thr Thr Ala Leu Asp Val Thr Ile Gln Glu Gln Ile Leu Leu  
 1 5 10 15

Leu Ile Lys Asn Leu Ser Lys Lys Phe Asn Thr Ser Thr Ile Phe Ile  
 20 25 30

Thr His Asp Leu Ala Val Val Ala Glu Ile Cys Asp Thr Val Ser Val  
 35 40 45

Met Tyr Gln Gly Lys Ile Val Glu Glu Gly Thr Val Glu Glu Ile Phe  
 50 55 60

Asn Asn Pro Lys His Pro Tyr Thr Ile Gly Leu Leu Lys Ser Ile Leu  
 65 70 75 80

Thr Leu Glu His Asp Pro Asn Lys Lys Leu Tyr Ser Thr Lys Glu Asn  
 85 90 95

Pro Met Lys Ile Thr Lys Thr Ser Thr Glu Glu Phe  
 100 105

&lt;210&gt; 182

&lt;211&gt; 390

&lt;212&gt; DNA



<213> Homo sapiens

<400> 182

```
atgagacaaa gagttatgat tgccatggct cttagctgtc atccatcctt attaatagca 60
gatgaaccaa caacagccct tgatgttaca atccaagagc aaatattatt attaatacaa 120
aacctatcta aaaaattcaa tacttctacc atatttataa ctcatgatct tgcggttgtt 180
gctgaaatgt gtgatacagt atctgtaatg tatcaaggaa aaattgtaga agaaggaaca 240
gtagaggaaa tatttaacaa tcctaagcat ccttacacca ttgggctttt aaaatcaatt 300
cttacgctag aacacgatcc aaataaaaag ctttattcaa caaaagaaaa ccctatgaag 360
atcacaaaaa ccagcaccga ggagttttta 390
```

<210> 183

<211> 327

<212> DNA

<213> Homo sapiens

<400> 183

```
gaaccaacaa cagcccttga tgttacaatc caagagcaaa tattattatt aatcaaaaac 60
ctatctaaaa aattcaatac ttctaccata ttataactc atgatcttgc ggttggtgct 120
gaaatgtgtg atacagtatc tgtaatgtat caaggaaaaa ttgtagaaga aggaacagta 180
gaggaaatat ttaacaatcc taagcatcct tacaccattg ggcttttaaa atcaattcct 240
acgctagaac acgatccaaa taaaagctt tattcaacaa aagaaaaccc tatgaagatc 300
acaaaaacca gcaccgagga gtttttaa 327
```

<210> 184

<211> 147

<212> PRT

<213> Homo sapiens

<400> 184

```
Met Ala Ile Met Glu Arg Ser Ile Ile Gly Leu Phe Ile Ala Leu Ala
  1             5             10             15
```

```
Phe Val Ser Trp Leu Thr Val Ala Arg Val Val Arg Gly Gln Val Gln
             20             25             30
```

```
Ser Leu Ser Ser Ser Glu Phe Ile Gln Ala Ala Lys Thr Leu Gly Ala
             35             40             45
```

```
Thr Asn Gln Arg Ile Ile Leu Lys His Leu Ile Pro Asn Ser Ile Gly
             50             55             60
```

```
Met Ile Val Ile Phe Thr Thr Ile Arg Val Pro Ser Phe Ile Met Ala
             65             70             75             80
```

```
Glu Ala Phe Leu Ser Phe Leu Gly Leu Gly Ile Ser Ala Pro Met Thr
             85             90             95
```

```
Ser Trp Gly Glu Leu Val Gln Asn Gly Ile Ala Thr Phe Val Glu Tyr
            100            105            110
```

```
Pro Trp Lys Val Phe Ile Pro Ala Ile Val Met Thr Ile Phe Leu Leu
            115            120            125
```

```
Phe Met Asn Phe Leu Gly Asp Gly Leu Arg Asp Ala Phe Asp Pro Lys
            130            135            140
```

Asp Ser Ile

145

&lt;210&gt; 185

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 185

Arg Val Val Arg Gly Gln Val Gln Ser Leu Ser Ser Ser Glu Phe Ile  
 1 5 10 15

Gln Ala Ala Lys Thr Leu Gly Ala Thr Asn Gln Arg Ile Ile Leu Lys  
 20 25 30

His Leu Ile Pro Asn Ser Ile Gly Met Ile Val Ile Phe Thr Thr Ile  
 35 40 45

Arg Val Pro Ser Phe Ile Met Ala Glu Ala Phe Leu Ser Phe Leu Gly  
 50 55 60

Leu Gly Ile Ser Ala Pro Met Thr Ser Trp Gly Glu Leu Val Gln Asn  
 65 70 75 80

Gly Ile Ala Thr Phe Val Glu Tyr Pro Trp Lys Val Phe Ile Pro Ala  
 85 90 95

Ile Val Met Thr Ile Phe Leu Leu Phe Met Asn Phe Leu Gly Asp Gly  
 100 105 110

Leu Arg Asp Ala Phe Asp Pro Lys Asp Ser Ile  
 115 120

&lt;210&gt; 186

&lt;211&gt; 444

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 186

atggcaataa tggaaagaag tataatcggc ttattcatag cacttgcatt tgtatcatgg 60  
 ttaacagtag ctcgagttgt acgaggccaa gtacaatcac tatcaagttc ggaatttata 120  
 caagcagcca aaacccttgg tgcaacaaat caaagaataa tcttaaaaca cttgatccct 180  
 aatagcattg gaatgatagt tatattcaca acaataaggg ttccaagctt tattatggct 240  
 gaagcatttt tatccttttt aggacttgga atttcagctc caatgacaag ctggggagaa 300  
 ttagtgcaaa atggaattgc tacatttgggt gaatatccat ggaaagtttt tattccagct 360  
 atagttatga caatatttct attatttatg aacttttttag gtgatgggct aagggatgct 420  
 tttgatccaa aagatagcat ctaa 444

&lt;210&gt; 187

&lt;211&gt; 372

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 187

cgagttgtac gaggccaagt acaatcacta tcaagttcgg aattttataca agcagccaaa 60  
 acccttggtg caacaaatca aagaataatc ttaaaacact tgatccctaa tagcatttga 120  
 atgatagtta tattcacaac aataagggtt ccaagcttta ttatggctga agcattttta 180  
 tccttttttag gacttgggaat ttcagctcca atgacaagct ggggagaatt agtgcaaaat 240  
 ggaattgcta catttgttga atatccatgg aaagttttta ttccagctat agttatgaca 300

atatttctat tatttatgaa ctttttaggt gatgggctaa gggatgcttt tgatccaaaa 360  
 gatagcatct aa 372

<210> 188

<211> 306

<212> PRT

<213> Homo sapiens

<400> 188

Met Leu Lys Phe Thr Leu Lys Lys Ile Leu Gly Ile Ile Pro Thr Leu  
 1 5 10 15

Leu Val Ile Ile Phe Leu Cys Phe Phe Val Met Arg Met Ala Pro Gly  
 20 25 30

Ser Pro Phe Asp Ser Glu Lys Pro Ile Asp Pro Gln Val Lys Ala Arg  
 35 40 45

Leu Met Glu Lys Tyr His Leu Asp Lys Pro Phe Tyr Ile Gln Ala Phe  
 50 55 60

Tyr Tyr Ile Thr Asn Ala Leu Arg Gly Asp Leu Gly Pro Ser Leu Lys  
 65 70 75 80

Lys Lys Asp Leu Thr Val Ser Gln Tyr Ile Lys Leu Gly Phe Pro Lys  
 85 90 95

Ser Leu Thr Leu Gly Val Ile Ser Leu Ile Ile Ser Leu Ser Ile Gly  
 100 105 110

Ile Pro Ile Gly Ile Leu Ala Ala Ile Tyr Lys Asn Thr Tyr Val Asp  
 115 120 125

Tyr Ile Ile Thr Ser Ile Ala Ile Leu Gly Ile Ser Ile Pro Leu Phe  
 130 135 140

Val Ile Gly Pro Ile Leu Gln Tyr Phe Phe Ala Ile Lys Trp Gly Leu  
 145 150 155 160

Leu Tyr Thr Ser Gly Trp Ile Thr Glu Arg Gly Gly Phe Ser Asn Leu  
 165 170 175

Ile Leu Pro Ile Ile Thr Leu Ser Met Pro Asn Val Ala Ile Phe Ala  
 180 185 190

Arg Ile Ile Arg Gly Ser Met Leu Glu Ile Ile Gln Ser Asp Phe Ile  
 195 200 205

Arg Thr Ala Arg Ala Lys Gly Leu Ser Phe Lys Lys Ile Val Ile Lys  
 210 215 220

His Met Leu Arg Gly Ala Met Leu Pro Val Val Ser Tyr Ile Gly Pro  
 225 230 235 240

Ala Phe Ala Ala Ile Ile Ser Gly Ser Val Val Ile Glu Lys Ile Phe  
 245 250 255

Arg Ile Ala Gly Met Gly Met Phe Ile Thr Glu Ser Ala Leu Asn Arg

260                      265                      270  
 Asp Tyr Pro Val Leu Met Gly Gly Leu Leu Val Tyr Ser Ile Ile Leu  
                          275                      280                      285  
 Leu Ile Ser Ile Leu Ile Ser Asp Ile Ile Tyr Lys Ile Leu Asp Pro  
                          290                      295                      300  
 Arg Val  
 305  
 <210> 189  
 <211> 274  
 <212> PRT  
 <213> Homo sapiens  
 <400> 189  
 Ser Pro Phe Asp Ser Glu Lys Pro Ile Asp Pro Gln Val Lys Ala Arg  
                          1                      5                      10                      15  
 Leu Met Glu Lys Tyr His Leu Asp Lys Pro Phe Tyr Ile Gln Ala Phe  
                          20                      25                      30  
 Tyr Tyr Ile Thr Asn Ala Leu Arg Gly Asp Leu Gly Pro Ser Leu Lys  
                          35                      40                      45  
 Lys Lys Asp Leu Thr Val Ser Gln Tyr Ile Lys Leu Gly Phe Pro Lys  
                          50                      55                      60  
 Ser Leu Thr Leu Gly Val Ile Ser Leu Ile Ile Ser Leu Ser Ile Gly  
                          65                      70                      75                      80  
 Ile Pro Ile Gly Ile Leu Ala Ala Ile Tyr Lys Asn Thr Tyr Val Asp  
                          85                      90                      95  
 Tyr Ile Ile Thr Ser Ile Ala Ile Leu Gly Ile Ser Ile Pro Leu Phe  
                          100                      105                      110  
 Val Ile Gly Pro Ile Leu Gln Tyr Phe Phe Ala Ile Lys Trp Gly Leu  
                          115                      120                      125  
 Leu Tyr Thr Ser Gly Trp Ile Thr Glu Arg Gly Gly Phe Ser Asn Leu  
                          130                      135                      140  
 Ile Leu Pro Ile Ile Thr Leu Ser Met Pro Asn Val Ala Ile Phe Ala  
                          145                      150                      155                      160  
 Arg Ile Ile Arg Gly Ser Met Leu Glu Ile Ile Gln Ser Asp Phe Ile  
                          165                      170                      175  
 Arg Thr Ala Arg Ala Lys Gly Leu Ser Phe Lys Lys Ile Val Ile Lys  
                          180                      185                      190  
 His Met Leu Arg Gly Ala Met Leu Pro Val Val Ser Tyr Ile Gly Pro  
                          195                      200                      205  
 Ala Phe Ala Ala Ile Ile Ser Gly Ser Val Val Ile Glu Lys Ile Phe  
                          210                      215                      220

Arg Ile Ala Gly Met Gly Met Phe Ile Thr Glu Ser Ala Leu Asn Arg  
225 230 235 240

Asp Tyr Pro Val Leu Met Gly Gly Leu Leu Val Tyr Ser Ile Ile Leu  
245 250 255

Leu Ile Ser Ile Leu Ile Ser Asp Ile Ile Tyr Lys Ile Leu Asp Pro  
260 265 270

Arg Val

<210> 190

<211> 921

<212> DNA

<213> Homo sapiens

<400> 190

```
atgttaaagt ttactttaaa gaaaatatta ggaataatac caactttact ggtaataatt 60
tttttatgct tttttgtaat gagaatggct cctggaagtc catttgattc tgaaaaacct 120
attgatccctc aagtaaaaagc aagattgatg gaaaaaatatc accttgacaa gcctttttat 180
attcaagcctt tttattacat taaaaacgct ctcaggggag atctgggacc ttctttgaaa 240
aagaaagacc ttacagttag tcaatacata aaattaggat ttccaaaatc acttacacta 300
ggagtaatat cccttattat atcactatca ataggaatac caatagggtat attagctgcc 360
atttataaaa atacttatgt ggattatata ataacatcaa tagcaatatt ggggatttca 420
ataccattat tcgtaatagg gccaatttta caatatTTTT ttgcaattaa atgggggttg 480
ctttatacct ctggatggat tacagaaaaga ggaggatttt caaatttaaat tctaccata 540
ataactctta gcatgcccaa cgtagctatt ttcgcaagaa taatcagagg atcaatgcta 600
gaaataatac aaagcgactt tataagaact gcgcgtgcaa aagggttaag cttcaaaaag 660
atagttataa agcatatggt aagaggagca atgttgcttg tagtaagcta tatagggtcca 720
gcatttgctg ctataatatc tggaagcgtg gttattgaaa aaatatTTtag aattgctgga 780
atgggaatgt ttataacaga atccgcacta aacagagatt acccagtatt aatgggcgga 840
ttgttagtat attcaataat actgcttatt tctatattaa tatcagatat tatatataaa 900
atattagatc caagagtata a                                     921
```

<210> 191

<211> 825

<212> DNA

<213> Homo sapiens

<400> 191

```
agtccatttg attctgaaaa acctattgat cctcaagtaa aagcaagatt gatggaaaaa 60
tatcaccttg acaagccttt ttatattcaa gctttttatt acattacaaa cgctctcagg 120
ggagatctgg gaccttcttt gaaaaagaaa gaccttacag ttagtcaata cataaaatta 180
ggatttccaa aatcaattac actaggagta atatccctta ttatatcact atcaatagga 240
ataccaatag gtatattagc tgccatttat aaaaaactt atgtggatta tataataaca 300
tcaatagcaa tattggggat ttcaatacca ttattcgtaa tagggccaat ttacaatat 360
ttttttgcaa ttaaattggg tttgctttat acctctggat ggattacaga aagaggagga 420
ttttcaaatt taattctacc cataataact cttagcatgc ccaacgtagc tattttcgca 480
agaataatca gaggatcaat gctagaaata atacaaagcg actttataag aactgcgcgt 540
gcaaaaaggc taagcttcaa aaagatagtt ataaaagcata tgtaagagg agcaatgttg 600
cctgtagtaa gctatatagg tccagcattt gctgctataa tatctggaag cgtgggttatt 660
gaaaaaatat ttagaattgc tggaatggga atgtttataa cagaatccgc actaaacaga 720
gattaccagc tattaatggg cggattgtta gtatattcaa taatactgct tatttctata 780
ttaatatcag atattatata taaaatatta gatccaagag tataa                                     825
```

<210> 192

&lt;211&gt; 523

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 192

```

Met Lys Tyr Ile Lys Ile Ala Leu Met Leu Ile Ile Phe Ser Leu Ile
 1           5           10           15

Ala Cys Ile Ser Asn Ala Lys Lys Glu Lys Ile Val Phe Arg Val Ser
          20           25           30

Asn Leu Ser Glu Pro Ser Ser Leu Asp Pro Gln Leu Ser Thr Asp Leu
          35           40           45

Tyr Gly Ser Asn Ile Ile Thr Asn Leu Phe Leu Gly Leu Ala Val Lys
          50           55           60

Asp Ser Gln Thr Gly Lys Tyr Lys Pro Gly Leu Ala Lys Ser Trp Asn
          65           70           75           80

Ile Ser Glu Asp Gly Ile Ile Tyr Thr Phe Asn Leu Arg Glu Asp Ile
          85           90           95

Val Trp Ser Asp Gly Val Ala Ile Thr Ala Glu Glu Ile Lys Lys Ser
          100          105          110

Tyr Leu Arg Ile Leu Asn Lys Lys Thr Ala Ala Met Tyr Ala Asn Leu
          115          120          125

Ile Lys Ser Thr Ile Lys Asn Ala Gln Glu Tyr Phe Asp Glu Thr Val
          130          135          140

Pro Glu Ser Glu Leu Gly Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu
          145          150          155          160

Ile Thr Leu Thr Ser Pro Lys Pro Tyr Phe Pro Asp Met Leu Thr His
          165          170          175

Ser Ala Tyr Ile Pro Val Pro Met His Ile Val Glu Lys Tyr Gly Glu
          180          185          190

Asn Trp Thr Asn Pro Glu Asn Ile Val Val Ser Gly Ala Tyr Lys Leu
          195          200          205

Lys Glu Arg Ser Ile Asn Asp Lys Ile Val Ile Glu Lys Asn Glu Lys
          210          215          220

Tyr Tyr Asn Ala Lys Asn Val Glu Ile Asp Glu Val Ile Phe Tyr Pro
          225          230          235          240

Thr Glu Gly Ser Val Ala Tyr Asn Met Tyr Ile Asn Gly Glu Leu Asp
          245          250          255

Phe Leu Gln Gly Ala Glu Lys Asn Asn Leu Glu Glu Ile Lys Ile Arg
          260          265          270

Asp Asp Tyr Tyr Ser Gly Leu Lys Asn Gly Met Ala Tyr Ile Ala Phe
          275          280          285

```

Asn Thr Thr Ile Lys Pro Leu Asp Asn Leu Lys Val Arg Gln Ala Ile  
290 295 300

Ser Leu Ala Ile Asp Arg Glu Thr Leu Thr Lys Val Val Leu Lys Gly  
305 310 315 320

Ser Ser Asp Pro Thr Arg Asn Leu Thr Pro Lys Phe Asp Asp Tyr Ser  
325 330 335

Tyr Gly Lys Asn Leu Ile Leu Phe Asp Pro Glu Asn Ala Lys Lys Leu  
340 345 350

Leu Ala Glu Ala Gly Tyr Pro Asp Gly Lys Gly Phe Pro Thr Leu Lys  
355 360 365

Tyr Lys Ile Ser Glu Gly Arg Pro Thr Thr Ala Glu Phe Leu Gln Glu  
370 375 380

Gln Phe Lys Lys Ile Leu Asn Ile Asn Leu Glu Ile Glu Asn Glu Glu  
385 390 395 400

Trp Thr Thr Phe Leu Gly Ser Arg Arg Thr Gly Asn Tyr Gln Met Ser  
405 410 415

Ser Val Gly Trp Ile Gly Asp Tyr Phe Asp Pro Leu Thr Phe Leu Asp  
420 425 430

Ser Leu Phe Thr Thr Glu Asn His Phe Leu Gly Ala Tyr Lys Tyr Ser  
435 440 445

Asn Lys Glu Tyr Asp Ala Leu Ile Lys Lys Ser Asn Phe Glu Leu Asp  
450 455 460

Pro Ile Lys Arg Gln Asp Ile Leu Arg Gln Ala Glu Glu Ile Ile Ala  
465 470 475 480

Glu Lys Asp Phe Pro Met Ala Pro Leu Tyr Ile Pro Lys Ser His Tyr  
485 490 495

Leu Phe Arg Asn Asp Lys Trp Thr Gly Trp Val Pro Asn Ile Ala Glu  
500 505 510

Ser Tyr Leu Tyr Glu Asp Ile Lys Thr Lys Lys  
515 520

<210> 193

<211> 506

<212> PRT

<213> Homo sapiens

<400> 193

Cys Ile Ser Asn Ala Lys Lys Glu Lys Ile Val Phe Arg Val Ser Asn  
1 5 10 15

Leu Ser Glu Pro Ser Ser Leu Asp Pro Gln Leu Ser Thr Asp Leu Tyr  
20 25 30

Gly Ser Asn Ile Ile Thr Asn Leu Phe Leu Gly Leu Ala Val Lys Asp  
 35 40 45  
 Ser Gln Thr Gly Lys Tyr Lys Pro Gly Leu Ala Lys Ser Trp Asn Ile  
 50 55 60  
 Ser Glu Asp Gly Ile Ile Tyr Thr Phe Asn Leu Arg Glu Asp Ile Val  
 65 70 75 80  
 Trp Ser Asp Gly Val Ala Ile Thr Ala Glu Glu Ile Lys Lys Ser Tyr  
 85 90 95  
 Leu Arg Ile Leu Asn Lys Lys Thr Ala Ala Met Tyr Ala Asn Leu Ile  
 100 105 110  
 Lys Ser Thr Ile Lys Asn Ala Gln Glu Tyr Phe Asp Glu Thr Val Pro  
 115 120 125  
 Glu Ser Glu Leu Gly Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu Ile  
 130 135 140  
 Thr Leu Thr Ser Pro Lys Pro Tyr Phe Pro Asp Met Leu Thr His Ser  
 145 150 155 160  
 Ala Tyr Ile Pro Val Pro Met His Ile Val Glu Lys Tyr Gly Glu Asn  
 165 170 175  
 Trp Thr Asn Pro Glu Asn Ile Val Val Ser Gly Ala Tyr Lys Leu Lys  
 180 185 190  
 Glu Arg Ser Ile Asn Asp Lys Ile Val Ile Glu Lys Asn Glu Lys Tyr  
 195 200 205  
 Tyr Asn Ala Lys Asn Val Glu Ile Asp Glu Val Ile Phe Tyr Pro Thr  
 210 215 220  
 Glu Gly Ser Val Ala Tyr Asn Met Tyr Ile Asn Gly Glu Leu Asp Phe  
 225 230 235 240  
 Leu Gln Gly Ala Glu Lys Asn Asn Leu Glu Glu Ile Lys Ile Arg Asp  
 245 250 255  
 Asp Tyr Tyr Ser Gly Leu Lys Asn Gly Met Ala Tyr Ile Ala Phe Asn  
 260 265 270  
 Thr Thr Ile Lys Pro Leu Asp Asn Leu Lys Val Arg Gln Ala Ile Ser  
 275 280 285  
 Leu Ala Ile Asp Arg Glu Thr Leu Thr Lys Val Val Leu Lys Gly Ser  
 290 295 300  
 Ser Asp Pro Thr Arg Asn Leu Thr Pro Lys Phe Asp Asp Tyr Ser Tyr  
 305 310 315 320  
 Gly Lys Asn Leu Ile Leu Phe Asp Pro Glu Asn Ala Lys Lys Leu Leu  
 325 330 335  
 Ala Glu Ala Gly Tyr Pro Asp Gly Lys Gly Phe Pro Thr Leu Lys Tyr



```
<210> 194
<211> 1572
<212> DNA
<213> Homo sapiens
```

<400>	194					
atgaaatata	taaaaaatagc	cttaaatgcta	ataatTTTTTT	ctttaaatagc	atgtattagt	60
aatgctaata	aagaaaaaat	agttttcaga	gtatcaaact	taagcgagcc	atcatcactt	120
gatcctcaac	tctcaacaga	ccttttacggt	agcaacatta	ttacaaaacct	attcttaggc	180
ctagcggtaa	aagattctca	aactggaaaa	tataaacagg	gacttgcaaa	aagttggaat	240
atttctgaag	attggaattat	ttacacattt	aacctaaagag	aagatatagt	ttggagcgat	300
ggagttgccg	ttactgccga	ggagataaaa	aaatcatacc	taagaatttt	aaataaaaaa	360
acagctgcaa	tgtatgctaa	tttaataaaa	tctacaataa	aaaatgcaca	agaatatttc	420
gatgagacag	tgctgaatc	tgagcttggc	ataaaggcta	ttgacagcaa	aaccttagag	480
ataacattaa	catctccaaa	gccttatttt	cctgatatgc	taacacactc	agcatacata	540
ccagttccaa	tgcatattgt	tgaaaaatat	ggagaaaaat	ggacaaattc	tgaaaatata	600
gttggttagtg	gcgcatacaa	acttaaagaa	agatcaatta	acgataaaat	cgtaaataga	660
aaaaatgaaa	aatactataa	tgcaaaaaat	gtagaaaattg	atgaagttaat	attttaccca	720
acagaaggtg	gcgtggctta	caatatgtac	ataaacgggtg	aactcgattt	tctacaagga	780
gcagaaaaga	ataatttaga	agaaattaaa	ataagagatg	attattattc	tggggttaaaa	840
aacggaatgg	catacatagc	attcaataca	acaataaaaac	cactagacaa	tttaaaaggt	900
agacaagcca	tctcccttgc	cattgacaga	gaaactttta	ctaaagtagt	tttaaaagggg	960
agttcagatc	caacaagaaa	tctaactcca	aaatttgatg	attattctta	tggaaaaaat	1020
ttaatactat	ttgactcctg	gaatgcaaaa	aaacttttag	ctgaagcttg	atatccggat	1080
gggaaaggat	tccccacatt	aaaaataaaa	aatctggagg	gaagaccaac	aacagcagaa	1140
tttttgcgaq	aacaatttaa	aaaaatacta	aacattaact	tagaaatcga	gaatgaagaa	1200

```

tggacaacat tcctaggaag cagaagaact ggaaattacc aaatgtcaag cgtggggtgg 1260
ataggagatt attttgatcc cttaacattc ttagacagct tatttacaac agaaaatcat 1320
tttttaggag cgtacaaata ttcaaacaaa gagtatgatg ctttaataaaa aaaaatcta 1380
tttgaacttg atccaataaa aagacaagac attttaagac aagctgaaga gataatagca 1440
gaaaaagact ttcctatggc acctttatat ataccctaat ctcattatct tttcagaaat 1500
gataaatgga caggggtggg accaaatata gcagaaagct atttatatga agatattaaa 1560
actaaaaaat aa 1572

```

&lt;210&gt; 195

&lt;211&gt; 1521

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 195

```

tgtattagta atgctaaaaa agaaaaaata gttttcagag tatcaaaactt aagcgagcca 60
tcacacacttg atcctcaact ctcaacagac ctttacggta gcaacattat tacaaaaccta 120
ttccttaggcc tagcgggtaa agattctcaa actggaaaaa ataaaccagg acttgcaaaa 180
agttggaata tttctgaaga tggaattatt tacacattta acctaagaga agatatagtt 240
tgagcgcgat gagttgccat tactgccgag gagataaaaa aatcatacct aagaatttta 300
aataaaaaaaa cagctgcaat gtatgcta atataaaaa ctacaataaa aaatgcacaa 360
gaatatttctg atgagacagt gcctgaatct gagcttggca taaaggctat tgacagcaaa 420
accttagaga taacattaac atctccaaag ccttattttc ctgatatgct aacacactca 480
gcatacatatc cagttccaat gcataattgtt gaaaaatatg gagaaaattg gacaaatcct 540
gaaaatatag ttgttagtgg cgcatacaaa cttaaagaaa gatcaattaa cgataaaatc 600
gtaatagaaa aaaatgaaaa atactataat gcaaaaaatg tagaaattga tgaagtaata 660
ttttacccaa cagaaggtag cgtggccttac aatatgtaca taaacgggtg actcgatttt 720
ctacaaggag cagaaaagaa taatttagaa gaaattaaaa taagagatga ttattattct 780
gggttaaaaa acggaatggc atacatagca ttcaatacaa caataaaaacc actagacaat 840
ttaaaagtta gacaagccat ctcccttgcc attgacagag aaactttaac taaagtagtt 900
ttaaagggaa gttcagatcc aacaagaaat ctaactccaa aatttgatga ttattcctat 960
ggaaaaaatt taatactatt tgatcctgag aatgcaaaaa aacttttagc tgaagctgga 1020
tatccggatg ggaaaggatt cccacatta aaatataaaa tatcggaggg aagaccaaca 1080
acagcagaat ttttgcaaga acaatttaaa aaaatactaa acattaactt agaaatcgag 1140
aatgaagaat ggacaacatt cctaggaagc agaagaactg gaaattacca aatgtcaagc 1200
gtggggtgga taggagatta ttttgatccc ttaacattct tagacagctt atttacaaca 1260
gaaaatcatt ttttaggagc gtacaaatat tcaaacaaag agtatgatgc ttttaataaaa 1320
aaatctaatt ttgaacttga tccaataaaa agacaagaca ttttaagaca agctgaagag 1380
ataatagcag aaaaagactt tcctatggca cctttatata taccctaatc tcattatctt 1440
ttcagaaatg ataaatggac aggggtgggta ccaaatatcg cagaaagcta tttatatgaa 1500
gatattaaaa ctaaaaaata a 1521

```

&lt;210&gt; 196

&lt;211&gt; 369

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 196

```

Met Lys Lys Ile Phe Leu Phe Leu Phe Ile Ser Phe Tyr Leu Phe Gly
 1             5             10            15

Phe Glu Asp Ser Ser Leu Lys Ile Gly Ile Asp Asp Val Tyr Val Glu
          20            25            30

Ala His Glu Glu Gly Phe His Leu Phe Ile Arg Lys Lys Pro Ala Ile
          35            40            45

Lys Ser Val Ile Leu Thr Glu Ser Phe Glu Ile Pro Asp Lys Lys Lys
          50            55            60

```

Asp	Val	Ala	Thr	Tyr	Ser	Phe	Arg	Thr	Leu	Ser	Tyr	Asn	Lys	Val	Asn	
65					70					75					80	
Gly	Asp	Glu	Ile	Arg	Ile	Leu	Asn	Gly	Arg	Val	Ile	Lys	Asn	Lys	Glu	
				85					90					95		
Leu	Leu	Ser	Leu	Thr	Ser	Ser	Thr	Pro	Val	Pro	Asn	Lys	Lys	Phe	Gly	
			100					105					110			
Glu	Ala	Phe	His	Ile	Leu	Ile	Pro	Lys	Lys	Leu	Lys	Tyr	Gly	Phe	Pro	
		115					120					125				
Asn	Phe	Ser	Thr	Arg	Ser	Gly	Asp	Ile	Asp	Leu	Glu	Val	Leu	Lys	Ser	
	130					135					140					
Lys	Lys	Glu	Pro	Phe	Trp	Phe	Ser	Ile	Arg	Ser	Phe	Glu	Lys	Lys	Tyr	
145					150					155					160	
Asn	Asp	Tyr	Leu	Gly	Arg	Tyr	Gln	Asp	Asn	Ala	Tyr	Glu	Leu	Leu	Phe	
				165				170						175		
Lys	Asp	Asp	Gln	Asn	Gln	Gly	Lys	Ile	Glu	Phe	Asn	Glu	Leu	Lys	Asp	
			180					185					190			
Thr	Phe	Thr	Lys	Phe	Ser	Asp	Glu	Val	Val	Ile	Ala	Asn	Asn	Gly	Ile	
		195					200					205				
Asp	Ile	Val	Asp	Lys	Ile	Asn	Lys	Ile	Leu	Lys	Asn	Ser	Glu	Asp	Ser	
	210					215					220					
Val	Tyr	Asp	Leu	Asp	Leu	Val	Leu	Val	Val	Asp	Val	Thr	Asp	Ser	Met	
225					230					235					240	
Lys	Ser	Asn	Ile	Glu	Ile	Leu	Lys	Glu	His	Leu	Phe	Ser	Ile	Ile	Glu	
				245					250					255		
Pro	Gln	Leu	Gln	Lys	Phe	Lys	Ser	Tyr	Arg	Ile	Gly	Leu	Val	Phe	Tyr	
			260					265					270			
Lys	Asp	Tyr	Leu	Glu	Asp	Phe	Leu	Thr	Lys	Ala	Phe	Asp	Phe	Asn	Thr	
		275					280					285				
Ile	Pro	Tyr	Leu	Asn	Asn	Ile	Leu	Lys	Tyr	Val	Asn	Val	Gly	Gly	Gly	
	290					295					300					
Gly	Asp	Tyr	Pro	Glu	Ala	Val	Phe	Glu	Gly	Ile	Asp	Ala	Ala	Val	Thr	
305					310					315					320	
Gln	Phe	Asp	Trp	Arg	Ala	Glu	Arg	Arg	Phe	Ile	Ile	Val	Ile	Gly	Asp	
				325					330					335		
Ala	Pro	Pro	His	Glu	Tyr	Pro	Arg	Gly	Ser	Ile	Val	Tyr	Lys	Asp	Val	
			340					345					350			
Ile	Asn	Ser	Ala	Lys	Glu	Lys	Asp	Ile	Thr	Ile	Tyr	Gly	Ile	Ile	Phe	
	355						360					365				

Gln

&lt;210&gt; 197

&lt;211&gt; 353

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 197

Phe Glu Asp Ser Ser Leu Lys Ile Gly Ile Asp Asp Val Tyr Val Glu  
 1 5 10 15  
 Ala His Glu Glu Gly Phe His Leu Phe Ile Arg Lys Lys Pro Ala Ile  
 20 25 30  
 Lys Ser Val Ile Leu Thr Glu Ser Phe Glu Ile Pro Asp Lys Lys Lys  
 35 40 45  
 Asp Val Ala Thr Tyr Ser Phe Arg Thr Leu Ser Tyr Asn Lys Val Asn  
 50 55 60  
 Gly Asp Glu Ile Arg Ile Leu Asn Gly Arg Val Ile Lys Asn Lys Glu  
 65 70 75 80  
 Leu Leu Ser Leu Thr Ser Ser Thr Pro Val Pro Asn Lys Lys Phe Gly  
 85 90 95  
 Glu Ala Phe His Ile Leu Ile Pro Lys Lys Leu Lys Tyr Gly Phe Pro  
 100 105 110  
 Asn Phe Ser Thr Arg Ser Gly Asp Ile Asp Leu Glu Val Leu Lys Ser  
 115 120 125  
 Lys Lys Glu Pro Phe Trp Phe Ser Ile Arg Ser Phe Glu Lys Lys Tyr  
 130 135 140  
 Asn Asp Tyr Leu Gly Arg Tyr Gln Asp Asn Ala Tyr Glu Leu Leu Phe  
 145 150 155 160  
 Lys Asp Asp Gln Asn Gln Gly Lys Ile Glu Phe Asn Glu Leu Lys Asp  
 165 170 175  
 Thr Phe Thr Lys Phe Ser Asp Glu Val Val Ile Ala Asn Asn Gly Ile  
 180 185 190  
 Asp Ile Val Asp Lys Ile Asn Lys Ile Leu Lys Asn Ser Glu Asp Ser  
 195 200 205  
 Val Tyr Asp Leu Asp Leu Val Leu Val Val Asp Val Thr Asp Ser Met  
 210 215 220  
 Lys Ser Asn Ile Glu Ile Leu Lys Glu His Leu Phe Ser Ile Ile Glu  
 225 230 235 240  
 Pro Gln Leu Gln Lys Phe Lys Ser Tyr Arg Ile Gly Leu Val Phe Tyr  
 245 250 255  
 Lys Asp Tyr Leu Glu Asp Phe Leu Thr Lys Ala Phe Asp Phe Asn Thr

260 265 270

Ile Pro Tyr Leu Asn Asn Ile Leu Lys Tyr Val Asn Val Gly Gly Gly  
 275 280 285

Gly Asp Tyr Pro Glu Ala Val Phe Glu Gly Ile Asp Ala Ala Val Thr  
 290 295 300

Gln Phe Asp Trp Arg Ala Glu Arg Arg Phe Ile Ile Val Ile Gly Asp  
 305 310 315 320

Ala Pro Pro His Glu Tyr Pro Arg Gly Ser Ile Val Tyr Lys Asp Val  
 325 330 335

Ile Asn Ser Ala Lys Glu Lys Asp Ile Thr Ile Tyr Gly Ile Ile Phe  
 340 345 350

Gln

&lt;210&gt; 198

&lt;211&gt; 1110

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 198

```

atgaagaaaa ttttttttatt tcttttttatt agttttttatt tgttttgatt tgaagatagt 60
tctttgaaaa taggtattga tgatgtttat gttgaggctc atgaagaggg atttcatctt 120
tttattagaa aaaaacctgc aatcaaatca gtaattattga cagagtcttt tgaaattcct 180
gataagaaaa aagatgtggc tacttattca tttcgtacat taagttataa taagggttaat 240
ggagatgaaa ttcggatttt aaatggaaga gttattaaga ataaagaact tttatcattg 300
acatcttcca cccctgttcc taataaaaaag tttggagaag cttttcatat attgattcca 360
aaaaaattaa aatatggatt tccaaatttt tcaacaagaa gtggtgatat tgacttagaa 420
gtattaaaaa gtaaaaaaga gcccttttgg ttttctataa gatcttttga gaaaaaatat 480
aatgattatt tgggcagata tcaagacaat gcttatgaat tgcttttcaa ggatgatcaa 540
aatcagggaa aaattgaatt taatgaatta aaagatactt ttacaaaatt ttcagatgag 600
gttggtattg ctaataatgg cattgatatt gttgataaaa taaacaaaat tttaaaaaac 660
tcagaagatt cagtttatga tttagattta gtgcttgttg ttgatgttac tgatagtatg 720
aaaagcaata ttgagattct aaaagagcat ttgttttcaa taatagaacc tcaacttcaa 780
aagtttaaat cctacagaat aggtcttgtt ttttataaag actatcttga agatttttta 840
accaaagctt ttgattttta tactattcct tatttaataa atattcttaa gtatgttaat 900
gttggtggcg gtggggatta tccagaagct gtttttgagg ggattgatgc tgctgtgacc 960
caatttgatt ggcgggcaga aagaaggttt attattgtta taggagatgc acctcctcat 1020
gagtatccaa gaggggtctat tgtttataaa gatgttatca attctgcaaa ggaaaaagat 1080
attacaattt atggaataat atttcagtaa 1110

```

&lt;210&gt; 199

&lt;211&gt; 1062

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 199

```

tttgaagata gttcttttgaa aataggtatt gatgatgttt atgttgaggc tcatgaagag 60
ggatttcattc tttttattag aaaaaaacct gcaatcaaatt cagtaattatt gacagagtct 120
tttgaaattc ctgataagaa aaaagatgtg gctacttatt catttcgtac attaagttat 180
aataagggtta atggagatga aattcggatt ttaaattggaa gagttattaa gaataaagaa 240
cttttatcat tgacatcttc caccctgtt cctaataaaa agtttgagaa agcttttcat 300
atattgattc caaaaaaatt aaaatatgga tttccaaatt tttcaacaag aagtgggtgat 360

```

```

attgacttag aagtattaaa aagtaaaaaa gagccctttt gggttttctat aagatctttt 420
gagaaaaaat ataatgatta tttgggcaga tatcaagaca atgcttatga attgcttttc 480
aaggatgac aaaatcaggg aaaaattgaa tttaatgaat taaaagatac ttttacaaaa 540
ttttcagatg aggttggtat tgctaataat ggcattgata ttgttgataa aataaacaaa 600
attttaaaaa actcagaaga ttcagtttat gatttagatt tagtgcttgt tgttgatgtt 660
actgatagta tgaaaagcaa tattgagatt ctaaaagagc atttgctttc aataatagaa 720
cctcaacttc aaaagtttta atcctacaga ataggtcttg ttttttataa agactatctt 780
gaagattttt taaccaaagc ttttgatttt aatactattc cttattttaa taatattctt 840
aagtatgtta atgttggtgg cgggtggggat tatccagaag ctgtttttga ggggattgat 900
gctgctgtga cccaatttga ttggcgggca gaaagaagg ttattattgt tataggagat 960
gcacctctc atgagtatcc aagaggttct attgtttata aagatgttat caattctgca 1020
aaggaaaaag atattacaat ttatggaata atatttcagt aa 1062

```

&lt;210&gt; 200

&lt;211&gt; 310

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 200

```

Met Ile Phe Phe Arg Asn Ser Phe Met Ala Leu Ile Phe Ser Phe Ser
  1           5           10           15

Ile Leu Ser Ile Ser Tyr Phe Phe Gly Asp Phe Phe Gln Phe Ser Tyr
      20           25           30

Ile Lys Met Ile Ser Trp Arg Phe Ile Leu Phe Leu Ile Met Ala Thr
      35           40           45

Gly Ile Ala Thr Cys Ala Lys Ser Asn Ser Leu Asn Leu Gly Asn Glu
      50           55           60

Gly Gln Ile Tyr Phe Gly Ala Phe Leu Val Tyr Ile Phe Ser Ser Phe
      65           70           75           80

Phe Gly Leu Thr Tyr Phe Asn Phe Val Phe Leu Ile Leu Leu Ser Ser
      85           90           95

Phe Phe Val Gly Leu Leu Gly Leu Ile Pro Phe Phe Ile Thr Phe Phe
      100          105          110

Phe Gly Leu Asn Lys Ala Leu Thr Gly Leu Leu Ile Ser Tyr Gly Asn
      115          120          125

Gln Arg Leu Val Asp Gly Phe Ile Leu Asn Met Leu Lys Thr Gly Ser
      130          135          140

Phe Ser Asn Gln Thr Lys Arg Ile Asn Ser Leu Phe Ala Leu Asp Ser
      145          150          155          160

Ser Leu Ile Tyr Leu Phe Leu Leu Gly Val Ser Val Trp Leu Phe Tyr
      165          170          175

Val Phe Ile His Lys Lys Thr Ile Tyr Gly Leu Gln Leu Glu Ile Leu
      180          185          190

Ser Asn Lys Lys Lys Ile Asp Ile Phe Phe Asn Ile Asn Glu Phe Lys
      195          200          205

```

Tyr Lys Phe Phe Ala Val Phe Gly Ser Ala Phe Leu Asn Gly Leu Ala  
 210 215 220  
 Gly Ser Met Phe Val Val Phe Phe Arg Pro Tyr Leu Val Leu Gly Leu  
 225 230 235 240  
 Thr Ser Gly Leu Gly Trp Ser Ser Leu Ile Val Ala Val Ile Ser Gly  
 245 250 255  
 Phe Asn Tyr Val Tyr Val Leu Phe Phe Ser Leu Leu Phe Ser Ile Leu  
 260 265 270  
 Ile Glu Phe Asn Asn Phe Leu Asn Ile Asn Tyr Asp Phe Lys Tyr Glu  
 275 280 285  
 Phe Ile Gly Leu Cys Gln Ser Ile Ala Ile Phe Ile Ser Leu Phe Leu  
 290 295 300  
 Ile Lys Ala Arg Lys Lys  
 305 310  
 <210> 201  
 <211> 257  
 <212> PRT  
 <213> Homo sapiens  
 <400> 201  
 Ala Lys Ser Asn Ser Leu Asn Leu Gly Asn Glu Gly Gln Ile Tyr Phe  
 1 5 10 15  
 Gly Ala Phe Leu Val Tyr Ile Phe Ser Ser Phe Phe Gly Leu Thr Tyr  
 20 25 30  
 Phe Asn Phe Val Phe Leu Ile Leu Leu Ser Ser Phe Phe Val Gly Leu  
 35 40 45  
 Leu Gly Leu Ile Pro Phe Phe Ile Thr Phe Phe Phe Gly Leu Asn Lys  
 50 55 60  
 Ala Leu Thr Gly Leu Leu Ile Ser Tyr Gly Asn Gln Arg Leu Val Asp  
 65 70 75 80  
 Gly Phe Ile Leu Asn Met Leu Lys Thr Gly Ser Phe Ser Asn Gln Thr  
 85 90 95  
 Lys Arg Ile Asn Ser Leu Phe Ala Leu Asp Ser Ser Leu Ile Tyr Leu  
 100 105 110  
 Phe Leu Leu Gly Val Ser Val Trp Leu Phe Tyr Val Phe Ile His Lys  
 115 120 125  
 Lys Thr Ile Tyr Gly Leu Gln Leu Glu Ile Leu Ser Asn Lys Lys Lys  
 130 135 140  
 Ile Asp Ile Phe Phe Asn Ile Asn Glu Phe Lys Tyr Lys Phe Phe Ala  
 145 150 155 160  
 Val Phe Gly Ser Ala Phe Leu Asn Gly Leu Ala Gly Ser Met Phe Val

165

170

175

Val Phe Phe Arg Pro Tyr Leu Val Leu Gly Leu Thr Ser Gly Leu Gly  
 180 185 190

Trp Ser Ser Leu Ile Val Ala Val Ile Ser Gly Phe Asn Tyr Val Tyr  
 195 200 205

Val Leu Phe Phe Ser Leu Leu Phe Ser Ile Leu Ile Glu Phe Asn Asn  
 210 215 220

Phe Leu Asn Ile Asn Tyr Asp Phe Lys Tyr Glu Phe Ile Gly Leu Cys  
 225 230 235 240

Gln Ser Ile Ala Ile Phe Ile Ser Leu Phe Leu Ile Lys Ala Arg Lys  
 245 250 255

Lys

&lt;210&gt; 202

&lt;211&gt; 933

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 202

```

atgatctttt ttagaaatag ctttatggca ttaatttttt ctttttcaat attaagtatt 60
agctattttt tcggtgattt ttttcaattt tcttatatta aaatgatata ttggcgcttt 120
attttatttt taattatggc tacggggatt gctacttggt ccaagagtaa ttcattaaat 180
cttggaatg aaggtcagat ttattttggg gcatttttag tttatatatt ttcaagtttt 240
tttgattaa cctattttta ttttgattt ttgatacttt taagttcttt tttgtagga 300
cttttggggc ttatccctt ttttattact tttttcttgc gattaaata agccttaaca 360
ggctttttta tatcttatgg aaatcaaaga ttgggtggat gattttattt aaatatgtta 420
aaaacaggta gtttttctaa tcagacaaaa aggattaata gtttgtttgc tttagattca 480
tcacttattt acttgttttt gcttggtgta tcagtttggc ttttttatgt ttttattcac 540
aaaaaaacta tttatggtct tcagcttgaa atattaagca ataaaaaaaa gatagacatt 600
tttttcaata taaatgaatt taaatataag tttttcgctg tatttggcag tgctttttta 660
aatggtcctg caggttctat gttttagtg ttttttagac catatttggg tttagggcta 720
acttcaggac ttggttgag tagtctaatt gttgctgtaa tttcaggatt taattatggt 780
tatgtattat ttttagctt attgttttca atattaattg aatttaataa ttttcttaat 840
ataaattatg actttaagta tgaatttatt gggctttgtc aatcaattgc tatttttatc 900
tctttatttt tgattaaagc taggaaaaag tag 933

```

&lt;210&gt; 203

&lt;211&gt; 774

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 203

```

gccaagagta attcattaaa tcttggaat gaaggtcaga tttatttttg ggcattttta 60
gtttatatat tttcaagttt ttttgatta acctatttta attttgtatt tttgatactt 120
ttaagttctt tttttgtagg acttttgggg cttatccctt tttttattac ttttttcttc 180
ggattaaata aagccttaac aggtctttta atatcttatg gaaatcaaag attgggtggat 240
ggattttatt taaatatgtt aaaaacagggt agtttttcta atcagacaaa aaggattaat 300
agtttgtttg ctttagattc atcacttatt tacttgtttt tgcttggtgt atcagtttgg 360
cttttttatg tttttattca caaaaaaact atttatgggt ttcagcttga aatattaagc 420
aataaaaaaa agatagacat ttttttcaat ataaatgaat ttaaatataa gtttttctgc 480
gtatttggca gtgctttttt aaatggtctt gcaggttcta tgttttagt gttttttaga 540

```



```

ccatatttgg ttttagggct aacttcagga cttggttgga gtagtctaata tgttgctgta 600
atttcaggat ttaattatgt ttatgtatta ttttttagct tattgttttc aatattaatt 660
gaatttaata attttcttaa tataaattat gactttaagt atgaatttat tgggctttgt 720
caatcaattg ctatttttat ctctttattt ttgattaaag ctaggaaaaa gtag 774

```

&lt;210&gt; 204

&lt;211&gt; 364

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 204

```

Met Val Val Glu Ile Asn Ser Leu Arg Thr Cys Tyr Leu Leu Val Leu
  1           5           10           15

Leu Leu Leu Val Ala Tyr Gly Leu Val Val Phe Tyr Thr Ser Ser Phe
      20           25           30

Phe Leu Ser Leu Glu Leu Thr Gly Asn Pro Asn Phe Leu Phe Phe Thr
      35           40           45

Arg Leu Asn Tyr Leu Phe Leu Ser Phe Met Val Phe Leu Val Phe Glu
      50           55           60

Arg Ile Ser Leu Asn Phe Leu Lys Lys Ser Ile Phe Pro Val Leu Ile
      65           70           75           80

Ile Thr Leu Phe Leu Ile Met Ala Thr Phe Leu Ser Pro Ser Ile Ser
      85           90           95

Gly Ala Lys Arg Trp Ile Phe Phe Gln Gly Val Ser Ile Gln Pro Ser
      100          105          110

Glu Ile Phe Lys Ile Ser Phe Thr Ile Tyr Leu Ser Ala Tyr Leu Ser
      115          120          125

Lys Phe Asp Pro Arg Lys Asn Asn Gly Ile Ser Tyr Trp Ile Lys Pro
      130          135          140

Met Leu Ile Phe Ala Ile Phe Trp Val Leu Ile Ile Leu Gln Asn Asp
      145          150          155          160

Tyr Ser Thr Ala Ile Tyr Phe Ala Ile Leu Phe Phe Ile Val Leu Phe
      165          170          175

Val Ser Asn Met Ala Phe Ser Tyr Val Phe Ala Ile Val Val Thr Phe
      180          185          190

Leu Pro Val Ser Ala Ile Phe Leu Met Leu Glu Pro Tyr Arg Val Ser
      195          200          205

Arg Ile Phe Ala Phe Leu Asn Pro Tyr Asp Asp Pro Ser Gly Lys Gly
      210          215          220

Tyr Gln Ile Ile Ala Ser Leu Asn Ala Leu Lys Ser Gly Gly Ile Leu
      225          230          235          240

Gly Lys Gly Leu Gly Met Gly Glu Val Lys Leu Gly Lys Leu Pro Glu
      245          250          255

```

Ala Asn Ser Asp Phe Ile Phe Ser Val Leu Gly Glu Glu Leu Gly Phe  
 260 265 270

Leu Gly Val Leu Phe Ala Ile Ser Leu Phe Phe Leu Phe Phe Tyr Phe  
 275 280 285

Gly Tyr Phe Ile Ala Ile His Ser Asn Ser Arg Phe Lys Phe Phe Ile  
 290 295 300

Ala Phe Ile Ser Ser Leu Ala Ile Phe Leu Gln Ser Met Met Asn Ile  
 305 310 315 320

Leu Ile Ala Ile Gly Leu Leu Pro Pro Thr Gly Ile Asn Leu Pro Phe  
 325 330 335

Phe Ser Ser Gly Gly Ser Ser Ile Ile Val Thr Met Ala Leu Ser Gly  
 340 345 350

Leu Ile Ser Asn Val Ser Lys Asn Leu Ser Asn Asn  
 355 360

<210> 205

<211> 300

<212> PRT

<213> Homo sapiens

<400> 205

Arg Ile Ser Leu Asn Phe Leu Lys Lys Ser Ile Phe Pro Val Leu Ile  
 1 5 10 15

Ile Thr Leu Phe Leu Ile Met Ala Thr Phe Leu Ser Pro Ser Ile Ser  
 20 25 30

Gly Ala Lys Arg Trp Ile Phe Phe Gln Gly Val Ser Ile Gln Pro Ser  
 35 40 45

Glu Ile Phe Lys Ile Ser Phe Thr Ile Tyr Leu Ser Ala Tyr Leu Ser  
 50 55 60

Lys Phe Asp Pro Arg Lys Asn Asn Gly Ile Ser Tyr Trp Ile Lys Pro  
 65 70 75 80

Met Leu Ile Phe Ala Ile Phe Trp Val Leu Ile Ile Leu Gln Asn Asp  
 85 90 95

Tyr Ser Thr Ala Ile Tyr Phe Ala Ile Leu Phe Phe Ile Val Leu Phe  
 100 105 110

Val Ser Asn Met Ala Phe Ser Tyr Val Phe Ala Ile Val Val Thr Phe  
 115 120 125

Leu Pro Val Ser Ala Ile Phe Leu Met Leu Glu Pro Tyr Arg Val Ser  
 130 135 140

Arg Ile Phe Ala Phe Leu Asn Pro Tyr Asp Asp Pro Ser Gly Lys Gly  
 145 150 155 160

Tyr Gln Ile Ile Ala Ser Leu Asn Ala Leu Lys Ser Gly Gly Ile Leu  
 165 170 175

Gly Lys Gly Leu Gly Met Gly Glu Val Lys Leu Gly Lys Leu Pro Glu  
 180 185 190

Ala Asn Ser Asp Phe Ile Phe Ser Val Leu Gly Glu Glu Leu Gly Phe  
 195 200 205

Leu Gly Val Leu Phe Ala Ile Ser Leu Phe Phe Leu Phe Phe Tyr Phe  
 210 215 220

Gly Tyr Phe Ile Ala Ile His Ser Asn Ser Arg Phe Lys Phe Phe Ile  
 225 230 235 240

Ala Phe Ile Ser Ser Leu Ala Ile Phe Leu Gln Ser Met Met Asn Ile  
 245 250 255

Leu Ile Ala Ile Gly Leu Leu Pro Pro Thr Gly Ile Asn Leu Pro Phe  
 260 265 270

Phe Ser Ser Gly Gly Ser Ser Ile Ile Val Thr Met Ala Leu Ser Gly  
 275 280 285

Leu Ile Ser Asn Val Ser Lys Asn Leu Ser Asn Asn  
 290 295 300

<210> 206

<211> 1095

<212> DNA

<213> Homo sapiens

<400> 206

```

atggtttag agataaattc acttaggaca tgttatttgc ttgttttgct gctatttgga 60
gcctatggcc ttgtagtttt ttatacttct tccttttttc taagcttaga attgacaggt 120
aatccaaatt ttttattttt cacaagactt aattatcttt ttttaagttt tatggttttt 180
cttggttttg aaaggatttc tttaaatttt ttaaaaaaat caatatttcc tgtattgatt 240
ataactcttt ttttaattat ggcaactttt ttatctccaa gtatttctgg agcaaagaga 300
tggatattct ttcaagggtgt tagcattcaa ccttctgaga tttttaaaat atcttttact 360
atztatcttt cagcttattt gagcaagttt gaccaagaa aaaacaatgg tatttcatac 420
tggataaagc caatgttgat ttttgcaatt ttttgggtgt taataatttt gcaaaacgat 480
tattcaacag ctatttattt tgccattctt ttttttattg ttttgtttgt ttctaataatg 540
gcatttagct atgtttttgc tattgtgggt acttttttac cagtttctgc tatattcttg 600
atgcttgaac cttatagggt ttctagaatt tttgcctttc tcaatcctta cgatgacct 660
tctggcaag gttaccagat aatagcatct cttaatgctt taaaaagtgg aggaatttta 720
ggtaaaaggg tgggaatggg agaggtaaaa cttggaaaat taccagaggc caattcggat 780
tttatttttt cagttcttgg agaagaatta ggatttttag gggttttgtt tgctataagc 840
ttgttttttt tgttttttta ctttggttat tttatagcta ttcattctaa tagtaggttt 900
aaatttttta ttgcatttat ttcaagtctt gcaatttttc ttcaaagcat gatgaatatt 960
ttaattgcaa tgggtctttt gcctcctaca gggataaatt taccattttt ttcatctggg 1020
ggatcttcta ttattgttac catggcattg tctggcctta tttcaaagt ttcaaaaaat 1080
ttaagtaata attga 1095

```

<210> 207

<211> 903

<212> DNA

<213> Homo sapiens

&lt;400&gt; 207

```

aggatttctt taaatttttt aaaaaaatca atatttcctg tattgattat aactcttttt 60
ttaattatgg caactttttt atctccaagt atttctggag caaagagatg gatattcttt 120
caagggtgta gcattcaacc ttctgagatt tttaaaatat cttttactat ttatctttca 180
gcttatttga gcaagtttga cccaagaaaa aacaatggta ttccatactg gataaagcca 240
atggtgattt ttgcaatttt ttgggtggtta ataattttgc aaaacgatta ttcaacagct 300
atttattttg ccattctttt ttttattggt ttgtttgttt ctaatatggc atttagctat 360
gtttttgcta ttgtggttac ttttttacca gtttctgcta tattcttgat gcttgaacct 420
tatagggttt ctagaatttt tgcctttctc aatccttacg atgaccttc tggcaaagg 480
taccagataa tagcatctct taatgcttta aaaagtggag gaattttagg taaagggctg 540
gggaatgggag aggtaaaact tggaaaatta ccagaggcca attcggattt tattttttca 600
gttcttggag aagaattagg atttttaggg gttttgtttg ctataagctt gttttttttg 660
tttttttact ttggttattt tatagctatt cattctaata gtaggtttta attttttatt 720
gcattttatt caagtcttgc aatttttctt caaagcatga tgaatatttt aattgcaatc 780
ggctttttgc ctctacagg gataaattta ccattttttt catctggggg atcttctatt 840
attgttacca tggcattgtc tggccttatt tcaaagtgtt caaaaaattt aagtaataat 900
tga

```

&lt;210&gt; 208

&lt;211&gt; 207

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 208

```

Met Lys Val Asn Asn Phe Leu Ser Phe Phe Phe Arg Ala Phe Phe Leu
 1             5             10             15

Leu Phe Leu Ile Val Ile Leu Phe Phe Phe Val Leu Phe Phe Ile Asp
      20             25             30

Phe Ile Gly Met Tyr Asn Thr Lys Arg Tyr Phe Pro Glu Phe Val Arg
      35             40             45

Thr Lys Leu Leu Gly Glu Thr Ser Leu Val Phe Asp His Asn Ser Asn
 50             55             60

Ile Ile Leu Asp Glu Ala Arg Leu Val Lys Glu Arg Glu Ala Ile Asp
 65             70             75             80

Ile Lys Asn Gln Gln Ile Glu Lys Leu Lys Glu Asp Leu Lys Leu Lys
      85             90             95

Glu Asp Ser Leu Asn Lys Leu Glu Phe Glu Leu Lys Gln Lys Gln Lys
100             105             110

Asp Leu Asp Leu Lys Gln Lys Ile Ile Asp Asp Ile Ile Asn Lys Tyr
115             120             125

Asn Asp Glu Glu Ala Asn Ile Leu Gln Thr Ala Val Tyr Leu Met Asn
130             135             140

Met Pro Pro Glu Asp Ala Val Lys Arg Leu Glu Asp Leu Asn Pro Glu
145             150             155             160

Leu Ala Ile Ser Tyr Met Arg Lys Ile Glu Glu Leu Ser Lys Lys Glu
165             170             175

Gly Arg Leu Ser Ile Val Pro Tyr Trp Leu Ser Leu Met Asp Ser Lys

```

180 185 190

Lys Ala Ala Ile Leu Ile Arg Lys Met Ser Val Ser Ser Leu Glu  
 195 200 205

<210> 209  
 <211> 177  
 <212> PRT  
 <213> Homo sapiens

<400> 209  
 Ile Asp Phe Ile Gly Met Tyr Asn Thr Lys Arg Tyr Phe Pro Glu Phe  
 1 5 10 15

Val Arg Thr Lys Leu Leu Gly Glu Thr Ser Leu Val Phe Asp His Asn  
 20 25 30

Ser Asn Ile Ile Leu Asp Glu Ala Arg Leu Val Lys Glu Arg Glu Ala  
 35 40 45

Ile Asp Ile Lys Asn Gln Gln Ile Glu Lys Leu Lys Glu Asp Leu Lys  
 50 55 60

Leu Lys Glu Asp Ser Leu Asn Lys Leu Glu Phe Glu Leu Lys Gln Lys  
 65 70 75 80

Gln Lys Asp Leu Asp Leu Lys Gln Lys Ile Ile Asp Asp Ile Ile Asn  
 85 90 95

Lys Tyr Asn Asp Glu Glu Ala Asn Ile Leu Gln Thr Ala Val Tyr Leu  
 100 105 110

Met Asn Met Pro Pro Glu Asp Ala Val Lys Arg Leu Glu Asp Leu Asn  
 115 120 125

Pro Glu Leu Ala Ile Ser Tyr Met Arg Lys Ile Glu Glu Leu Ser Lys  
 130 135 140

Lys Glu Gly Arg Leu Ser Ile Val Pro Tyr Trp Leu Ser Leu Met Asp  
 145 150 155 160

Ser Lys Lys Ala Ala Ile Leu Ile Arg Lys Met Ser Val Ser Ser Leu  
 165 170 175

Glu

<210> 210  
 <211> 624  
 <212> DNA  
 <213> Homo sapiens

<400> 210  
 atgaaagtga ataatttttt atcgtttcttt ttttagggcat tttttttggt atttttaatt 60  
 gttattttat ttttctttgt attattcttt attgatttta ttggaatgta taatactaaa 120  
 agatatttcc ccgaatttgt aagaaccaag ttgtaggag aaacttctct ggtctttgat 180  
 cataattcta atataattct tgatgaagct agacttgtga aggaaagaga agctattgat 240  
 attaagaatc agcagattga aaagcttaaa gaagatctaa agttaaaaga agacagttta 300

```

aataagcttg aatttgagct taagcaaaag cagaaagatt tagatttaaa acaaaaaata 360
atagatgaca ttataaataa atataatgat gaggaagcaa atattttgca aacagctgta 420
tatttaatga atatgccacc agaagatgct gttaagcggc ttgaagattt aaatcccgag 480
cttgcaatat cttatatgcg gaaaattgaa gagctttcca aaaaagaagg tcgtttatca 540
attgttcctt attggttatc tcttatggat tctaaaaaag ctgctatatt gattagaaaa 600
atgtctgtta gttcattgga gtag                                     624

```

<210> 211

<211> 534

<212> DNA

<213> Homo sapiens

<400> 211

```

attgatttta ttggaatgta taatactaaa agatatttcc ccgaatttgt aagaaccaag 60
ttgttaggag aaacttctct ggtctttgat cataattcta atataattct tgatgaagct 120
agacttggtga aggaaagaga agctattgat attaagaatc agcagattga aaagcttaaa 180
gaagatctaa agttaaaaga agacagttta aataagcttg aatttgagct taagcaaaag 240
cagaaagatt tagatttaaa acaaaaaata atagatgaca ttataaataa atataatgat 300
gaggaagcaa atattttgca aacagctgta tatttaatga atatgccacc agaagatgct 360
gttaagcggc ttgaagattt aaatcccgag cttgcaatat cttatatgcg gaaaattgaa 420
gagctttcca aaaaagaagg tcgtttatca attgttcctt attggttatc tcttatggat 480
tctaaaaaag ctgctatatt gattagaaaa atgtctgtta gttcattgga gtag       534

```

<210> 212

<211> 242

<212> PRT

<213> Homo sapiens

<400> 212

```

Met Leu Thr Tyr Gly Asp Met Val Thr Leu Leu Leu Val Phe Phe Val
 1              5              10              15

Thr Met Phe Ser Leu Asn Asp Ile Ile Phe Gln Glu Asn Val Ile Arg
              20              25              30

Ile Met Ser Ala Ser Phe Thr Gly Ala Gly Phe Phe Lys Gly Gly Lys
              35              40              45

Thr Leu Asp Phe Ser Lys Leu Ser Tyr Leu Ser Asn Ser Phe Met Ser
 50              55              60

Leu Pro Ser Thr Val Arg Asn Lys Gln Ala Ser Gln Thr Ala Lys Asn
 65              70              75              80

Lys Ser Met Ile Glu Phe Ile Glu Lys Ile Gln Ser Lys Asn Ile Val
              85              90              95

Val Arg Gln Glu Glu Arg Gly Ile Val Ile Ser Leu Ala Ala Asp Ala
              100              105              110

Phe Phe Asp Ser Ala Ser Ala Asp Val Lys Leu Glu Glu Asn Arg Asp
115              120              125

Ser Ile Gln Lys Ile Ala Ser Phe Ile Gly Phe Leu Ser Pro Arg Gly
130              135              140

Tyr Asn Phe Lys Ile Glu Gly His Thr Asp Asn Ile Asp Thr Asp Val
145              150              155              160

```

Asn Gly Pro Trp Lys Ser Asn Trp Glu Leu Ser Ala Ala Arg Ser Val  
 165 170 175

Asn Met Leu Glu His Ile Leu Asn Tyr Leu Asp Gln Ser Asp Val Lys  
 180 185 190

Arg Ile Glu Asn Asn Phe Glu Val Ser Gly Phe Gly Gly Ser Arg Pro  
 195 200 205

Ile Ala Thr Asp Asp Thr Pro Glu Gly Arg Ala Tyr Asn Arg Arg Ile  
 210 215 220

Asp Ile Leu Ile Thr Thr Asp Ala Ser Leu Ser Phe Pro Lys Glu Ile  
 225 230 235 240

Lys Gln

<210> 213

<211> 221

<212> PRT

<213> Homo sapiens

<400> 213

Asn Asp Ile Ile Phe Gln Glu Asn Val Ile Arg Ile Met Ser Ala Ser  
 1 5 10 15

Phe Thr Gly Ala Gly Phe Phe Lys Gly Gly Lys Thr Leu Asp Phe Ser  
 20 25 30

Lys Leu Ser Tyr Leu Ser Asn Ser Phe Met Ser Leu Pro Ser Thr Val  
 35 40 45

Arg Asn Lys Gln Ala Ser Gln Thr Ala Lys Asn Lys Ser Met Ile Glu  
 50 55 60

Phe Ile Glu Lys Ile Gln Ser Lys Asn Ile Val Val Arg Gln Glu Glu  
 65 70 75 80

Arg Gly Ile Val Ile Ser Leu Ala Ala Asp Ala Phe Phe Asp Ser Ala  
 85 90 95

Ser Ala Asp Val Lys Leu Glu Glu Asn Arg Asp Ser Ile Gln Lys Ile  
 100 105 110

Ala Ser Phe Ile Gly Phe Leu Ser Pro Arg Gly Tyr Asn Phe Lys Ile  
 115 120 125

Glu Gly His Thr Asp Asn Ile Asp Thr Asp Val Asn Gly Pro Trp Lys  
 130 135 140

Ser Asn Trp Glu Leu Ser Ala Ala Arg Ser Val Asn Met Leu Glu His  
 145 150 155 160

Ile Leu Asn Tyr Leu Asp Gln Ser Asp Val Lys Arg Ile Glu Asn Asn  
 165 170 175

Phe Glu Val Ser Gly Phe Gly Gly Ser Arg Pro Ile Ala Thr Asp Asp  
180 185 190

Thr Pro Glu Gly Arg Ala Tyr Asn Arg Arg Ile Asp Ile Leu Ile Thr  
195 200 205

Thr Asp Ala Ser Leu Ser Phe Pro Lys Glu Ile Lys Gln  
210 215 220

<210> 214

<211> 729

<212> DNA

<213> Homo sapiens

<400> 214

```
atgttgactt atggagacat gggtactttg ctgcttgtgt tttttgttac aatgttttca 60
ttaaatgata ttatttttca agaaaatgtg ataagaataa tgtctgcttc tttcacgggt 120
gctggatttt tcaaggcgcg taaaacttta gatttttagta aattatctta tttgagtaat 180
agctttatgt ctttgccttc tactgtgcgc aataaacaag catctcagac tgctaaaaat 240
aaatccatga ttgaatttat tgagaagatt cagtctaaaa atattgtagt taggcaagaa 300
gaaagaggta ttgtaatatc tcttgcagca gatgcatttt ttgattctgc tagtgcagat 360
gttaagcttg aagagaatag agattctatt caaaaaatag catcttttat tggcttttta 420
agtcctagag gctataattt taaaatagaa gggcatcacag ataattattga tactgatgta 480
aatggacctt ggaaaagcaa ttgggaactt tcggctgcta gatctgttaa tatgctggaa 540
catattttga actatttaga tcaatctgat gttaaaagaa ttgaaaataa ttttgaagta 600
tctggttttg gtggaagtag gcctattgca acagacgata cccctgaggg tagggcttat 660
aatagaagaa ttgatataat aattactaca gatgcatctt taagtttccc taaggaaatt 720
aagcagtaa 729
```

<210> 215

<211> 666

<212> DNA

<213> Homo sapiens

<400> 215

```
aatgatatta tttttcaaga aaatgtgata agaataatgt ctgcttcttt caccgggtgct 60
ggatttttca agggcggtaa aacttttagat tttagtaaat tatcttattt gagtaatagc 120
tttatgtctt tgccttctac tgtgcgcaat aaacaagcat ctccagactgc taaaaataaa 180
tccatgattg aattttattga gaagattcag tctaaaaata ttgtagtttag gcaagaagaa 240
agaggatttg taatatctct tgcagcagat gcattttttg attctgctag tgcagatgtt 300
aagcttgaag agaatagaga ttctattcaa aaaatagcat cttttattgg ctttttaagt 360
cctagaggct ataattttta aatagaaggg catcacagata atattgatac tgatgtaaat 420
ggaccttgga aaagcaattg ggaactttcg gctgctagat ctgttaatat gctggaacat 480
attttgaact atttagatca atctgatgtt aaaagaattg aaaataattt tgaagtatct 540
ggttttggtg gaagtaggcc tattgcaaca gacgataccc ctgagggtag ggcttataat 600
agaagaattg atatattaat tactacagat gcattctttaa gtttccctaa ggaaattaag 660
cagtaa 666
```

<210> 216

<211> 285

<212> PRT

<213> Homo sapiens

<400> 216

Met Arg Met Ser Val Tyr Thr Met Gly Phe Ala Tyr Ile Arg Ser Ile  
1 5 10 15

Met Gly Tyr Val Val Leu Phe Phe Phe Ala Ser Leu Ala Val Asn Phe



20										25					30															
Phe	Val	Asn	Ile	Ile	Gln	Val	Gly	Phe	Phe	Ile	Thr	Phe	Lys	Ser	Leu															
		35					40					45																		
Glu	Pro	Arg	Trp	Asp	Lys	Ile	Ser	Phe	Asn	Phe	Ser	Arg	Trp	Ala	Lys															
		50				55					60																			
Asn	Ser	Phe	Phe	Ser	Ala	Gly	Ala	Phe	Phe	Asn	Leu	Phe	Lys	Ser	Leu															
		65			70					75					80															
Leu	Lys	Val	Val	Ile	Ile	Cys	Leu	Ile	Tyr	Tyr	Phe	Ile	Ile	Glu	Asn															
				85					90					95																
Asn	Ile	Gly	Lys	Ile	Ser	Lys	Leu	Ser	Glu	Tyr	Thr	Leu	Gln	Ser	Gly															
			100					105					110																	
Ile	Ser	Ile	Val	Leu	Val	Ile	Ala	Tyr	Lys	Ile	Cys	Phe	Phe	Ser	Val															
		115					120					125																		
Met	Phe	Leu	Ala	Ile	Val	Gly	Val	Phe	Asp	Tyr	Leu	Phe	Gln	Arg	Ser															
		130				135					140																			
Gln	Tyr	Ile	Glu	Ser	Leu	Lys	Met	Thr	Lys	Glu	Glu	Val	Lys	Gln	Glu															
		145			150					155					160															
Arg	Lys	Glu	Met	Glu	Gly	Asp	Pro	Leu	Leu	Arg	Ser	Arg	Ile	Lys	Glu															
			165					170					175																	
Arg	Met	Arg	Val	Ile	Leu	Ser	Thr	Asn	Leu	Arg	Val	Ala	Ile	Pro	Gln															
			180					185					190																	
Ala	Asp	Val	Val	Ile	Thr	Asn	Pro	Glu	His	Phe	Ala	Val	Ala	Ile	Lys															
		195					200					205																		
Trp	Asp	Ser	Glu	Thr	Met	Leu	Ala	Pro	Lys	Val	Leu	Ala	Lys	Gly	Gln															
		210				215					220																			
Asp	Glu	Ile	Ala	Leu	Thr	Ile	Lys	Lys	Ile	Ala	Arg	Glu	Asn	Asn	Val															
		225			230				235					240																
Pro	Leu	Met	Glu	Asn	Lys	Leu	Leu	Ala	Arg	Ala	Leu	Tyr	Ala	Asn	Val															
			245					250						255																
Lys	Val	Asn	Glu	Glu	Ile	Pro	Arg	Glu	Tyr	Trp	Glu	Ile	Val	Ser	Lys															
		260					265						270																	
Ile	Leu	Val	Arg	Val	Tyr	Ser	Ile	Thr	Lys	Lys	Phe	Asn																		
		275					280					285																		

<210> 217  
 <211> 253  
 <212> PRT  
 <213> Homo sapiens

<400> 217  
 Phe Val Asn Ile Ile Gln Val Gly Phe Phe Ile Thr Phe Lys Ser Leu  
 1 5 10 15

Glu Pro Arg Trp Asp Lys Ile Ser Phe Asn Phe Ser Arg Trp Ala Lys  
                   20                                  25                                  30  
 Asn Ser Phe Phe Ser Ala Gly Ala Phe Phe Asn Leu Phe Lys Ser Leu  
                   35                                  40                                  45  
 Leu Lys Val Val Ile Ile Cys Leu Ile Tyr Tyr Phe Ile Ile Glu Asn  
                   50                                  55                                  60  
 Asn Ile Gly Lys Ile Ser Lys Leu Ser Glu Tyr Thr Leu Gln Ser Gly  
                   65                                  70                                  75                                  80  
 Ile Ser Ile Val Leu Val Ile Ala Tyr Lys Ile Cys Phe Phe Ser Val  
                                   85                                  90                                  95  
 Met Phe Leu Ala Ile Val Gly Val Phe Asp Tyr Leu Phe Gln Arg Ser  
                                   100                                  105                                  110  
 Gln Tyr Ile Glu Ser Leu Lys Met Thr Lys Glu Glu Val Lys Gln Glu  
                   115                                  120                                  125  
 Arg Lys Glu Met Glu Gly Asp Pro Leu Leu Arg Ser Arg Ile Lys Glu  
                   130                                  135                                  140  
 Arg Met Arg Val Ile Leu Ser Thr Asn Leu Arg Val Ala Ile Pro Gln  
                   145                                  150                                  155                                  160  
 Ala Asp Val Val Ile Thr Asn Pro Glu His Phe Ala Val Ala Ile Lys  
                                   165                                  170                                  175  
 Trp Asp Ser Glu Thr Met Leu Ala Pro Lys Val Leu Ala Lys Gly Gln  
                   180                                  185                                  190  
 Asp Glu Ile Ala Leu Thr Ile Lys Lys Ile Ala Arg Glu Asn Asn Val  
                   195                                  200                                  205  
 Pro Leu Met Glu Asn Lys Leu Leu Ala Arg Ala Leu Tyr Ala Asn Val  
                   210                                  215                                  220  
 Lys Val Asn Glu Glu Ile Pro Arg Glu Tyr Trp Glu Ile Val Ser Lys  
                   225                                  230                                  235                                  240  
 Ile Leu Val Arg Val Tyr Ser Ile Thr Lys Lys Phe Asn  
                                   245                                  250

&lt;210&gt; 218

&lt;211&gt; 858

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 218

atgcgtatga gtgtttatag tatgggtttt gcatatatta gatctatcat ggggtatgtc 60  
 gttttgtttt ttttcgcata ttttagctgtt aatttttttg ttaatatattat tcaagtaggc 120  
 ttttttatta cttttaaatc tttggagcca aggtgggata aaattagtgtt taatttttcc 180  
 agatgggcaa aaaattcttt tttttcagca ggggcttttt tcaatttggt taaaagtgtg 240  
 ttaaaagtgtg ttataatatg cttgatatat tattttatta tagaaaacaa tataggcaaa 300  
 atttctaagc tttcggagta tacacttcaa tctggaattt ctattgtgtt agtgattgcc 360

tataagatat gttttttttc agtaatgttt ttggcaattg taggggtggt tgattatttg 420  
 tttcaaagat ctgagtacat tgagagtttg aaaatgacaa aagaagaggt aaagcaggaa 480  
 agaaaggaaa tggaagggtga tccttttactt cgatctagaa taaaagagag aatgaggggt 540  
 attttaagta ccaatttaag agtagctatt cctcaagcag atgtagtaat tacaaatcca 600  
 gaacattttg cagttgctat taaatgggat agcgaaacaa tgtagctcc aaagggtgctt 660  
 gcaaaagggtc aagatgaaat agctctcaca attaaaaaaa ttgcaagaga aaataatggt 720  
 cctttaatgg aaaataagct ccttgcaaga gctctttatg ctaatgttaa ggtaaatgaa 780  
 gagattccaa gagaatattg ggagattggt tcaaaaattc ttgtgagagt atattctatt 840  
 actaaaaagt ttaattag 858

<210> 219

<211> 762

<212> DNA

<213> Homo sapiens

<400> 219

tttgtaata ttattcaagt aggctttttt attactttta aatcttttga gccaaagggtg 60  
 gataaaatta gttttaattt ttccagatgg gcaaaaaatt cttttttttc agcaggggct 120  
 tttttcaatt tgttttaaag ttgtttaaaa gttgttataa tatgcttgat atattatttt 180  
 attatagaaa acaatatagg caaaatttct aagcttttcgg agtatacact tcaatctgga 240  
 atttctattg tgtagtgat tgcttataag atatgttttt tttcagtaat gtttttggca 300  
 attgtagggg tgtttgatta tttgtttcaa agatctcagt acattgagag tttgaaaatg 360  
 acaaaagaag aggtaaaaga ggaagaaaag gaaatggaag gtgacctttt acttcgatct 420  
 agaataaaag agagaatgag gggtattttta agtaccatt taagagtagc tattcctcaa 480  
 gcagatgtag taattacaaa tccagaacat ttgcaagtg ctattaaatg ggatagcgaa 540  
 acaatgttag ctccaaagggt gcttgcaaaa ggtcaagatg aaatagctct cacaattaaa 600  
 aaaattgcaa gagaaaataa tgttccttta atggaaaata agctccttgc aagagctctt 660  
 tatgctaatt ttaagggttaa tgaagagatt ccaagagaat attgggagat tgtttcaaaa 720  
 attcttgtga gagtatttc tattactaaa aagtttaatt ag 762

<210> 220

<211> 155

<212> PRT

<213> Homo sapiens

<400> 220

Met Phe Thr Leu Ser Phe Val Leu Ile Asn Phe Ile Ile Thr Gly Ile  
 1 5 10 15

Leu Ile Leu Met Leu Glu Phe Asn Phe Leu Lys Val Asp Phe Lys Gly  
 20 25 30

Asn Ile Leu Leu Ala Gly Ile Phe Met Gly Leu Met Gln Gly Leu Gly  
 35 40 45

Ala Leu Pro Gly Ile Ser Arg Ser Gly Ile Thr Ile Phe Ser Ala Ser  
 50 55 60

Val Ile Gly Phe Asn Arg Lys Ser Ala Phe Glu Ile Ser Phe Leu Ser  
 65 70 75 80

Leu Ile Pro Ile Val Phe Gly Ala Ile Leu Leu Lys His Lys Glu Phe  
 85 90 95

Tyr Asp Ile Phe Met Val Leu Asn Phe Phe Glu Ile Asn Leu Gly Ala  
 100 105 110

Leu Val Ala Phe Val Val Gly Ile Phe Ser Ile Asn Phe Phe Phe Lys

115 120 125

Met Leu Asn Asn Lys Lys Leu Tyr Tyr Phe Ser Ile Tyr Leu Phe Ala  
130 135 140

Leu Ser Ile Ile Val Cys Tyr Phe Val Arg Ile  
145 150 155

<210> 221  
<211> 143  
<212> PRT  
<213> Homo sapiens

<400> 221  
Ile Thr Gly Ile Leu Ile Leu Met Leu Glu Phe Asn Phe Leu Lys Val  
1 5 10 15

Asp Phe Lys Gly Asn Ile Leu Leu Ala Gly Ile Phe Met Gly Leu Met  
20 25 30

Gln Gly Leu Gly Ala Leu Pro Gly Ile Ser Arg Ser Gly Ile Thr Ile  
35 40 45

Phe Ser Ala Ser Val Ile Gly Phe Asn Arg Lys Ser Ala Phe Glu Ile  
50 55 60

Ser Phe Leu Ser Leu Ile Pro Ile Val Phe Gly Ala Ile Leu Leu Lys  
65 70 75 80

His Lys Glu Phe Tyr Asp Ile Phe Met Val Leu Asn Phe Phe Glu Ile  
85 90 95

Asn Leu Gly Ala Leu Val Ala Phe Val Val Gly Ile Phe Ser Ile Asn  
100 105 110

Phe Phe Phe Lys Met Leu Asn Asn Lys Lys Leu Tyr Tyr Phe Ser Ile  
115 120 125

Tyr Leu Phe Ala Leu Ser Ile Ile Val Cys Tyr Phe Val Arg Ile  
130 135 140

<210> 222  
<211> 468  
<212> DNA  
<213> Homo sapiens

<400> 222  
atgtttacat tgtctttcgt ttttaattaat tttattataa cagggatttt aatcttgatg 60  
ctagaattta attttttaaa agttgatttt aaaggtaata ttttgtttagc aggaattttt 120  
atggggctga tgcaaggcct gggtgcgctt ccaggaatct ctcgttcagg aattacgatc 180  
ttttcgcat cggttatttg atttaataga aaaagtgcatt ttgaaatttc atttttatct 240  
ttaattccaa tagtttttgg agcgatttta ttaaaacata aagaatttta tgatattttt 300  
atggttttta atttttttga aataaactta ggagcattag ttgcttttgt tgttggtatt 360  
ttctcaataa atttcttttt taaaatgctt aataacaaaa aactgtatta tttttctata 420  
tattttattg cactttcaat tatagtttgt tattttggtta gaatatga 468

<210> 223  
<211> 432

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 223

```

ataacaggga ttttaatctt gatgctagaa tttaattttt taaaagttga ttttaaaggt 60
aatattttgt tagcaggaat ttttatgggg ctgatgcaag gcttgggtgc gcttccagga 120
atctctcggt caggaattac gatcttttcg gcacggtta ttggatttaa tagaaaaagt 180
gcatttgaaa tttcattttt atctttaatt ccaatagttt ttggagcgat tttattaaaa 240
cataaagaat tttatgatat ttttatgggt ttaaattttt ttgaaataaa cttaggagca 300
ttagttgctt ttgttggttg tattttctca ataaatttct tttttaaaat gcttaataac 360
aaaaaactgt attatttttc tatatattta ttgcacttt caattatagt ttgttatttt 420
gttagaatat ga 432

```

&lt;210&gt; 224

&lt;211&gt; 508

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 224

```

Met Ile Val Leu Leu Ile Ser Ile Gly Cys Ala Asn Ala Val His Ile
 1             5             10             15

Ile Asn Glu Ile Phe Lys Leu Ile Lys Lys Glu Gln Leu Ser Lys Glu
      20             25             30

Ser Ile Lys Ala Thr Ile Lys Lys Leu Lys Thr Pro Ile Leu Leu Thr
      35             40             45

Ser Phe Thr Thr Ala Phe Gly Phe Leu Ser Leu Thr Thr Ser Ser Ile
      50             55             60

Asn Ala Tyr Lys Thr Met Gly Ile Phe Met Ser Ile Gly Val Ile Ile
      65             70             75             80

Ser Met Ile Ile Ser Leu Thr Val Leu Pro Gly Ile Ile Thr Leu Ile
      85             90             95

Pro Phe Ala Lys Lys Lys Ser Phe Glu Lys Glu Lys Glu Asn Lys Leu
      100            105            110

Asn Lys Ile Ser Phe Leu Glu Arg Leu Ala Lys Leu Asn Thr Gln Ile
      115            120            125

Thr Lys Ser Ile Leu Lys Arg Lys Tyr Thr Ser Ser Ile Met Val Leu
      130            135            140

Ile Ile Leu Gly Ile Ser Phe Val Gly Leu Leu Lys Ile Glu Ile Asn
      145            150            155            160

Phe Asp Glu Lys Asp Tyr Phe Lys Glu Ser Thr Ser Val Lys Lys Thr
      165            170            175

Leu Asn Leu Met Gln Lys Glu Met Gly Gly Ile Ser Ile Phe Lys Ile
      180            185            190

Glu Ile Glu Gly Arg Pro Gly Glu Phe Lys Asn Ala Lys Ala Met Gln
      195            200            205

```

Ile Leu Asp Leu Ile Thr Asp Lys Leu Asp Ala Phe Ser Ala Lys Thr  
 210 215 220  
 Gln Ser Ser Ser Ile Asn Gly Ile Leu Lys Phe Thr Asn Phe Lys Ile  
 225 230 235 240  
 Lys Lys Glu Ser Pro Leu Glu Tyr Lys Leu Pro Glu Asn Lys Ile Ile  
 245 250 255  
 Leu Asn Lys Leu Ile Asn Leu Ile Asp Lys Ser Asp Trp Thr Lys Asp  
 260 265 270  
 Asn Lys Arg Met Tyr Ile Asn Asp Asp Trp Ser Leu Ile Ser Ile Ile  
 275 280 285  
 Val Arg Ile Glu Asp Asn Ser Thr Glu Gly Ile Lys Lys Phe Glu Lys  
 290 295 300  
 Tyr Ala Ile Asn Thr Ile Asn Glu Tyr Met Lys Asn Asn Lys Tyr His  
 305 310 315 320  
 Phe Ser Gly Val Tyr Asp Lys Val Leu Ile Ala Lys Thr Met Val Lys  
 325 330 335  
 Glu Gln Val Ile Asn Ile Ile Thr Thr Leu Gly Ser Ile Thr Leu Leu  
 340 345 350  
 Leu Met Phe Phe Phe Lys Ser Ile Lys Thr Gly Ile Ile Ile Ala Ile  
 355 360 365  
 Pro Val Ala Trp Ser Val Phe Leu Asn Phe Ala Val Met Arg Leu Phe  
 370 375 380  
 Gly Ile Thr Leu Asn Pro Ala Thr Ala Thr Ile Ala Ser Val Ser Met  
 385 390 395 400  
 Gly Val Gly Val Asp Tyr Ser Ile His Phe Phe Asn Thr Phe Ile Leu  
 405 410 415  
 Gln Tyr Gln Lys Asn Gln Ile Tyr Lys Thr Ala Leu Leu Glu Ser Ile  
 420 425 430  
 Pro Asn Val Phe Asn Gly Ile Phe Ala Asn Ser Ile Ser Val Gly Ile  
 435 440 445  
 Gly Phe Leu Thr Leu Thr Phe Ser Ser Tyr Lys Ile Ile Ser Thr Leu  
 450 455 460  
 Gly Ala Ile Ile Ala Phe Thr Met Leu Thr Thr Ser Leu Ala Ser Leu  
 465 470 475 480  
 Thr Leu Leu Pro Leu Leu Ile Tyr Leu Phe Lys Pro Arg Val Lys Leu  
 485 490 495  
 Ala Ser Asn Asn Asn Phe Lys Lys Leu Lys Gln Glx  
 500 505

&lt;211&gt; 442

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 225

Tyr Lys Thr Met Gly Ile Phe Met Ser Ile Gly Val Ile Ile Ser Met  
 1 5 10 15  
 Ile Ile Ser Leu Thr Val Leu Pro Gly Ile Ile Thr Leu Ile Pro Phe  
 20 25 30  
 Ala Lys Lys Lys Ser Phe Glu Lys Glu Lys Glu Asn Lys Leu Asn Lys  
 35 40 45  
 Ile Ser Phe Leu Glu Arg Leu Ala Lys Leu Asn Thr Gln Ile Thr Lys  
 50 55 60  
 Ser Ile Leu Lys Arg Lys Tyr Thr Ser Ser Ile Met Val Leu Ile Ile  
 65 70 75 80  
 Leu Gly Ile Ser Phe Val Gly Leu Leu Lys Ile Glu Ile Asn Phe Asp  
 85 90 95  
 Glu Lys Asp Tyr Phe Lys Glu Ser Thr Ser Val Lys Lys Thr Leu Asn  
 100 105 110  
 Leu Met Gln Lys Glu Met Gly Gly Ile Ser Ile Phe Lys Ile Glu Ile  
 115 120 125  
 Glu Gly Arg Pro Gly Glu Phe Lys Asn Ala Lys Ala Met Gln Ile Leu  
 130 135 140  
 Asp Leu Ile Thr Asp Lys Leu Asp Ala Phe Ser Ala Lys Thr Gln Ser  
 145 150 155 160  
 Ser Ser Ile Asn Gly Ile Leu Lys Phe Thr Asn Phe Lys Ile Lys Lys  
 165 170 175  
 Glu Ser Pro Leu Glu Tyr Lys Leu Pro Glu Asn Lys Ile Ile Leu Asn  
 180 185 190  
 Lys Leu Ile Asn Leu Ile Asp Lys Ser Asp Trp Thr Lys Asp Asn Lys  
 195 200 205  
 Arg Met Tyr Ile Asn Asp Asp Trp Ser Leu Ile Ser Ile Ile Val Arg  
 210 215 220  
 Ile Glu Asp Asn Ser Thr Glu Gly Ile Lys Lys Phe Glu Lys Tyr Ala  
 225 230 235 240  
 Ile Asn Thr Ile Asn Glu Tyr Met Lys Asn Asn Lys Tyr His Phe Ser  
 245 250 255  
 Gly Val Tyr Asp Lys Val Leu Ile Ala Lys Thr Met Val Lys Glu Gln  
 260 265 270  
 Val Ile Asn Ile Ile Thr Thr Leu Gly Ser Ile Thr Leu Leu Met  
 275 280 285

Phe Phe Phe Lys Ser Ile Lys Thr Gly Ile Ile Ile Ala Ile Pro Val  
 290 295 300  
 Ala Trp Ser Val Phe Leu Asn Phe Ala Val Met Arg Leu Phe Gly Ile  
 305 310 315 320  
 Thr Leu Asn Pro Ala Thr Ala Thr Ile Ala Ser Val Ser Met Gly Val  
 325 330 335  
 Gly Val Asp Tyr Ser Ile His Phe Phe Asn Thr Phe Ile Leu Gln Tyr  
 340 345 350  
 Gln Lys Asn Gln Ile Tyr Lys Thr Ala Leu Leu Glu Ser Ile Pro Asn  
 355 360 365  
 Val Phe Asn Gly Ile Phe Ala Asn Ser Ile Ser Val Gly Ile Gly Phe  
 370 375 380  
 Leu Thr Leu Thr Phe Ser Ser Tyr Lys Ile Ile Ser Thr Leu Gly Ala  
 385 390 395 400  
 Ile Ile Ala Phe Thr Met Leu Thr Thr Ser Leu Ala Ser Leu Thr Leu  
 405 410 415  
 Leu Pro Leu Leu Ile Tyr Leu Phe Lys Pro Arg Val Lys Leu Ala Ser  
 420 425 430  
 Asn Asn Asn Phe Lys Lys Leu Lys Gln Glx  
 435 440

&lt;210&gt; 226

&lt;211&gt; 1524

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 226

atgattgttt tacttatttc aatcggtatgc gccaatgctg tacatataat aaatgaaata 60  
 tttaaattaa taaaaaaga acagctctca aaagaatcca taaaagcaac aattaaaaaa 120  
 cttaaaacac ccattcgtgct aacatctttt acaactgcat ttggattttt atctcttaca 180  
 acctcttcaa ttaatgccta caaaacaatg ggtattttca tgtcaattgg agtaattatc 240  
 tcaatgataa tctcatatc cgttttacct ggaataataa cattaatccc atttgcaaaa 300  
 aaaaagtctt ttgaaaaaga aaaagaaaat aaactaaata aaatatcctt ctttgaaaga 360  
 cttgccaaac taaatacgc aataacaaaa tctatattaa aaagaaaata tacatcctct 420  
 ataattggtcc tcatcatact gggaattttt tttgtaggtc ttttaaaaaat cgaaatcaat 480  
 tttgatgaaa aagattactt taaagaaagc acaagtgtaa aaaaaacatt aaacctaatg 540  
 caaaaagaaa tgggggggaat atcgattttt aaaatagaaa ttgaaggcag gcccggtgaa 600  
 tttaaaaatg ctaaagcaat gcaaatatta gacttaatta cagataagct tgatgcattt 660  
 tctgcaaaaa ctcaatctag ttctattaat ggcattttta aatttacaaa ttttaaaatt 720  
 aaaaaagaat cccactaga gtataaactg cctgaaaata aaattatact aaacaaacta 780  
 ataaatttga tagataaaaag cgattggact aaggacaata aaagaatgta cattaacgat 840  
 gactggtcat taatatctat catagtaaga attgaagaca actcaaccga aggaataaaa 900  
 aaatttgaaa aatatgctat taacacaatt aatgaatata tgaaaaataa taaatatcat 960  
 ttctcaggtg tttatgataa ggtattaata gctaaaacaa tggtaaaaga acagggttata 1020  
 aacattataa caactcttgg atcaataaca ctactactta tgtttttctt taaatctata 1080  
 aaaaccggaa taattattgc aatcccagta gcatggtcag tgttttttaa ctttgctgta 1140  
 atgagattat ttgggataac cttaaaccct gcaacggcaa caattgcatt tgtaagcatg 1200  
 ggagtaggag tagattattc aattcatttt ttcaatcacat ttatttttaca ataccaaaaa 1260



```

aatcaaactct acaaaactgc acttcttgaa tcaataccca atgtatttaa tggaatattt 1320
gcaaattctta tttctgttgg aataggattt ttaactctaa ctttttcgtc ttataaaaata 1380
atatcaactc ttggagcaat aattgctttt acaatgctaa cgacatctct tgcataccta 1440
actcttcttc cattattaat ttatttattt aaacctagag taaagctagc ctcaaacaac 1500
aattttaaaa aattaaaaca ataa 1524

```

<210> 227

<211> 1326

<212> DNA

<213> Homo sapiens

<400> 227

```

tacaaaaacaa tgggtatttt catgtcaatt ggagtaatta tctcaatgat aatctcatta 60
accgtttttac ctggaataat aacattaatc ccatttgcaa aaaaaaagtc ttttgaaaaa 120
gaaaaagaaa ataaactaaa taaaatatcc ttccttgaaa gacttgccaa actaaatagc 180
caaataacaa aatctatatt aaaaagaaaa tatacatcct ctataatggc cctcatcata 240
ctgggaatttt cttttgtagg tcttttataaa atcgaaatca attttgatga aaaagattac 300
tttaaagaaa gcacaagtgt aaaaaaaaaca ttaaacctaa tgcaaaaaga aatgggggga 360
atatcgatttt tcaaaataga aattgaaggc aggcccggtg aatttataaaa tgctaaagca 420
atgcaaatat tagacttaat tacagataag cttgatgcat tttctgcaaa aactcaatct 480
agttctatta atggcattttt aaaattttaca aatttttaaaa ttaaaaaaga atccccacta 540
gagtataaac tgccctgaaa taaaattata ctaaacaaac taataaattt gatagataaa 600
agcgattgga ctaaggacaa taaaagaatg tacattaacg atgactgggc attaatatct 660
atcatagtaa gaattgaaga caactcaacc gaaggaataa aaaaatttga aaaatatgct 720
attaacacaa ttaatgaata tatgaaaaat aataaatatc atttctcagg tgtttatgat 780
aaggatttaa tagctaaaac aatggtaaaa gaacagggtta taaacattat aacaactctt 840
ggatcaataa cactactact tatgttttttc tttaaatcta taaaaaccgg aataattatt 900
gcaatcccag tagcatgggc agtgttttta aactttgctg taatgagatt atttgggata 960
accctaaacc ccgcaacggc aacaattgca tctgtaagca tgggagtagg agtagattat 1020
tcaattcatt ttttcaatac atttatttta caataccaaa aaaatcaaat ctacaaaact 1080
gcacttcttg aatcaatacc caatgtattt aatggaatat ttgcaaattc tatttctgtt 1140
ggaataggat ttttaactct aacattttcg tcttataaaa taatatcaac tcttgagca 1200
ataattgctt ttacaatgct aacgacatct cttgcatcac taactcttct tccattatta 1260
atttatttat ttaaacctag agtaaagcta gcctcaaaca acaattttta aaaattaaaa 1320
caataa 1326

```

<210> 228

<211> 254

<212> PRT

<213> Homo sapiens

<400> 228

```

Met Asn Tyr Thr Lys Phe Gln Glu Phe Ile Ser Glu Phe Leu Gly Thr
 1          5          10          15

Phe Ile Leu Leu Ala Leu Gly Thr Gly Ser Val Ala Met Thr Val Leu
          20          25          30

Phe Ser Ser Ser Pro Glu Ile Pro Gly Glu Ile Ile Lys Gly Gly Tyr
          35          40          45

Thr Asn Ile Val Phe Gly Trp Gly Leu Gly Val Thr Phe Gly Ile Tyr
          50          55          60

Thr Ala Ala Arg Met Ser Gly Ala His Leu Asn Pro Ala Val Ser Ile
          65          70          75          80

Gly Leu Ala Ser Val Gly Lys Phe Pro Val Ser Lys Leu Leu His Tyr

```

[illegible]

```
<210> 229
<211> 214
<212> PRT
<213> Homo sapiens
```

<400> 229

Gly	Glu	Ile	Ile	Lys	Gly	Gly	Tyr	Thr	Asn	Ile	Val	Phe	Gly	Trp	Gly	1	5	10	15
Leu	Gly	Val	Thr	Phe	Gly	Ile	Tyr	Thr	Ala	Ala	Arg	Met	Ser	Gly	Ala	20	25	30	
His	Leu	Asn	Pro	Ala	Val	Ser	Ile	Gly	Leu	Ala	Ser	Val	Gly	Lys	Phe	35	40	45	
Pro	Val	Ser	Lys	Leu	Leu	His	Tyr	Ile	Val	Ala	Gln	Ile	Leu	Gly	Ala	50	55	60	
Phe	Thr	Gly	Ala	Leu	Met	Thr	Leu	Val	Val	Phe	Tyr	Pro	Lys	Trp	Ile	65	70	75	80
Glu	Met	Asp	Pro	Gly	Leu	Glu	Asn	Thr	Gln	Gly	Ile	Met	Ala	Thr	Phe	85	90	95	
Pro	Ala	Val	Pro	Gly	Phe	Leu	Pro	Gly	Phe	Ile	Asp	Gln	Ile	Phe	Gly	100	105	110	

Thr Phe Leu Leu Met Phe Leu Ile Ser Val Val Gly Asp Phe Thr Lys  
 115 120 125

Lys His Ser Asp Asn Pro Phe Ile Pro Phe Ile Val Gly Ala Val Val  
 130 135 140

Leu Ser Ile Gly Ile Ser Phe Gly Gly Met Asn Gly Tyr Ala Ile Asn  
 145 150 155 160

Pro Ala Arg Asp Leu Gly Pro Arg Ile Leu Leu Leu Phe Ala Gly Phe  
 165 170 175

Lys Asn His Gly Phe Asn Asn Leu Ser Ile Val Ile Val Pro Ile Ile  
 180 185 190

Gly Pro Ile Ile Gly Ala Ile Leu Gly Ala Thr Ile Tyr Glu Phe Thr  
 195 200 205

Leu Lys Asn Asn Lys Asp  
 210

<210> 230

<211> 765

<212> DNA

<213> Homo sapiens

<400> 230

atgaattata	caaaattcca	agaatttata	tcggaatttt	tgggaacatt	tatcctattg	60
gctctaggaa	ctggatctgt	tgcaatgaca	gtattatfff	cctcaagtcc	cgaaatacca	120
ggagaaataa	taaaaggagg	atatacaaat	atagtatttg	gatggggatt	gggtgtaacg	180
tttggtatff	acacagcagc	aagaatgagc	ggagcacacc	taaaccagc	tgtagcata	240
ggattagcaa	gtgttgga	gtttcccgtt	tcaaaactff	tacattacat	tgtagcacia	300
atattaggag	cttttacagg	tgcatlaatg	acacttgfcg	tattttatcc	taaatggata	360
gaaatggatc	ctggcttaga	aaatactcaa	ggaataatgg	caactttccc	tgctgttcct	420
ggatttttgc	ctggatttat	tgatcaaatt	tttggaactt	ttttgcta	gtttttaatt	480
tctgttgttg	gagattttac	aaaaaaacac	agcgacaatc	cattttattcc	ttttattgta	540
ggagcagtgg	ttttatcaat	agggataagt	ttcggaggaa	tgaacggtta	tgctattaat	600
cctgcaaggg	atctgggacc	aagaatttta	ctcttatttg	ctggatttaa	aaatcacgga	660
tttaacaatc	taagtatagt	tattgtacca	ataattggcc	caataattgg	agcaattttg	720
ggagctacaa	tttacgaatt	tacactaaaa	aataacaaag	actaa		765

<210> 231

<211> 645

<212> DNA

<213> Homo sapiens

<400> 231

ggagaaataa	taaaaggagg	atatacaaat	atagtatttg	gatggggatt	gggtgtaacg	60
tttggtatff	acacagcagc	aagaatgagc	ggagcacacc	taaaccagc	tgtagcata	120
ggattagcaa	gtgttgga	gtttcccgtt	tcaaaactff	tacattacat	tgtagcacia	180
atattaggag	cttttacagg	tgcatlaatg	acacttgfcg	tattttatcc	taaatggata	240
gaaatggatc	ctggcttaga	aaatactcaa	ggaataatgg	caactttccc	tgctgttcct	300
ggatttttgc	ctggatttat	tgatcaaatt	tttggaactt	ttttgcta	gtttttaatt	360
tctgttgttg	gagattttac	aaaaaaacac	agcgacaatc	cattttattcc	ttttattgta	420
ggagcagtgg	ttttatcaat	agggataagt	ttcggaggaa	tgaacggtta	tgctattaat	480
cctgcaaggg	atctgggacc	aagaatttta	ctcttatttg	ctggatttaa	aaatcacgga	540
tttaacaatc	taagtatagt	tattgtacca	ataattggcc	caataattgg	agcaattttg	600

ggagctacaa ttacgaatt tacactaaaa aataacaaag actaa

645

<210> 232

<211> 257

<212> PRT

<213> Homo sapiens

<400> 232

Met Arg Arg Leu Phe Leu Leu Tyr Ile Leu Cys Ser Phe Val Phe Leu  
1 5 10 15

Asn Leu Phe Ala Gln Gly Ser Ser Ser Tyr Ile Asp Lys Gln Lys Glu  
20 25 30

Leu Ala Ile Phe Tyr Tyr Glu Val Gly Gln Arg Tyr Ile Asn Val Gly  
35 40 45

Lys Ile Lys Lys Gly Lys Leu Phe Gln Ala Lys Ala Leu Lys Ile Tyr  
50 55 60

Pro Asp Leu Lys Lys Gly Phe Asp Ile Lys Leu Ala Val Lys Glu Leu  
65 70 75 80

Asp Ala Arg Ile Lys Asp Asp Asn Pro Lys Val Val Met Leu Glu Asp  
85 90 95

Ile Lys Leu Glu Glu Ile Pro Gly Ile Val His Glu Lys Ile Glu Ile  
100 105 110

Asn Asp Phe Thr Asn Ala Pro Lys Ile Glu Tyr Ile Ala Gln Arg Glu  
115 120 125

Arg Ser Lys Asn Gln Asp Lys Ile Ile Lys Phe Gln Phe Gly Lys Phe  
130 135 140

Ala Arg Ala Leu Ile Ser Arg Asn Phe Asp Leu Phe Asp Ser Val Ile  
145 150 155 160

Ala Asp Lys Val Asn Val Met Gly Gln Phe Glu Ser Lys Asn Asp Phe  
165 170 175

Ile Ser Thr Leu Ser Ser Ala Ser Ser Lys Ala Asp Ala Asp Glu Leu  
180 185 190

Glu Tyr Leu Ser Val Asp Asp Tyr Tyr Asp Leu Lys Ser Leu Lys Ile  
195 200 205

Ser Lys Ser Asn Asp Thr Ser Phe Ala Val Asn Val Asn Ala Lys Lys  
210 215 220

Asn Asp Val Thr Lys Asn Phe Pro Phe Trp Lys Glu Arg Gln Thr Leu  
225 230 235 240

Ile Phe Thr Thr Glu Asp Asp Asn Asn Trp Phe Leu Ser Ser Ile Asn  
245 250 255

Glx

<210> 233  
 <211> 257  
 <212> PRT  
 <213> Homo sapiens

<400> 233

Met Arg Arg Leu Phe Leu Leu Tyr Ile Leu Cys Ser Phe Val Phe Leu  
 1 5 10 15  
 Asn Leu Phe Ala Gln Gly Ser Ser Ser Tyr Ile Asp Lys Gln Lys Glu  
 20 25 30  
 Leu Ala Ile Phe Tyr Tyr Glu Val Gly Gln Arg Tyr Ile Asn Val Gly  
 35 40 45  
 Lys Ile Lys Lys Gly Lys Leu Phe Gln Ala Lys Ala Leu Lys Ile Tyr  
 50 55 60  
 Pro Asp Leu Lys Lys Gly Phe Asp Ile Lys Leu Ala Val Lys Glu Leu  
 65 70 75 80  
 Asp Ala Arg Ile Lys Asp Asp Asn Pro Lys Val Val Met Leu Glu Asp  
 85 90 95  
 Ile Lys Leu Glu Glu Ile Pro Gly Ile Val His Glu Lys Ile Glu Ile  
 100 105 110  
 Asn Asp Phe Thr Asn Ala Pro Lys Ile Glu Tyr Ile Ala Gln Arg Glu  
 115 120 125  
 Arg Ser Lys Asn Gln Asp Lys Ile Ile Lys Phe Gln Phe Gly Lys Phe  
 130 135 140  
 Ala Arg Ala Leu Ile Ser Arg Asn Phe Asp Leu Phe Asp Ser Val Ile  
 145 150 155 160  
 Ala Asp Lys Val Asn Val Met Gly Gln Phe Glu Ser Lys Asn Asp Phe  
 165 170 175  
 Ile Ser Thr Leu Ser Ser Ala Ser Ser Lys Ala Asp Ala Asp Glu Leu  
 180 185 190  
 Glu Tyr Leu Ser Val Asp Asp Tyr Tyr Asp Leu Lys Ser Leu Lys Ile  
 195 200 205  
 Ser Lys Ser Asn Asp Thr Ser Phe Ala Val Asn Val Asn Ala Lys Lys  
 210 215 220  
 Asn Asp Val Thr Lys Asn Phe Pro Phe Trp Lys Glu Arg Gln Thr Leu  
 225 230 235 240  
 Ile Phe Thr Thr Glu Asp Asp Asn Asn Trp Phe Leu Ser Ser Ile Asn  
 245 250 255

Glx

<210> 234  
 <211> 771  
 <212> DNA  
 <213> Homo sapiens

<400> 234  
 atgagaagat tatttcttct atatatat tgttcttttg tttttttgaa tttatttgct 60  
 caaggtagtt cttcttatat tgataagcaa aaagagcttg ctatttttta ttatgagggt 120  
 ggtcaaagat atataaacgt tggtaaaatt aaaaaaggaa agctttttca agcaaaagct 180  
 ttaaagattt atccagattt gaaaaagggg tttgatatca agcttgcagt taaagagctt 240  
 gatgctagga ttaaagatga caatcccaag gttgttatgc ttgaggatat taagcttgag 300  
 gagatacctg gaatagtgcg cgaaaaaata gaaatcaatg attttacaaa tgctcctaaa 360  
 atagaatata ttgctcaaag agagagaagc aaaaatcaag ataaaattat taagtttcaa 420  
 tttggaaaagt ttgcaagagc ttttaatttct aggaactttg atttgtttga ttcagttatt 480  
 gcggataaag ttaacgttat ggggtcaattt gaatcaaaaa atgattttat atcaacttta 540  
 tcaagtgtctt catctaaggc cgatgctgat gagtttagagt atttatcagt tgatgattat 600  
 tacgatttaa agtcttttaa aatttcaaaa tccaacgata cttcttttgc tgtaaatgtt 660  
 aatgccaaaa aaaatgatgt tactaaaaat tttccatttt ggaaagaacg tcaaaacttta 720  
 atttttacta cagaggatga taataattgg tttttgtctt ccataaattg a 771

<210> 235  
 <211> 711  
 <212> DNA  
 <213> Homo sapiens

<400> 235  
 caaggtagtt cttcttatat tgataagcaa aaagagcttg ctatttttta ttatgagggt 60  
 ggtcaaagat atataaacgt tggtaaaatt aaaaaaggaa agctttttca agcaaaagct 120  
 ttaaagattt atccagattt gaaaaagggg tttgatatca agcttgcagt taaagagctt 180  
 gatgctagga ttaaagatga caatcccaag gttgttatgc ttgaggatat taagcttgag 240  
 gagatacctg gaatagtgcg cgaaaaaata gaaatcaatg attttacaaa tgctcctaaa 300  
 atagaatata ttgctcaaag agagagaagc aaaaatcaag ataaaattat taagtttcaa 360  
 tttggaaaagt ttgcaagagc ttttaatttct aggaactttg atttgtttga ttcagttatt 420  
 gcggataaag ttaacgttat ggggtcaattt gaatcaaaaa atgattttat atcaacttta 480  
 tcaagtgtctt catctaaggc cgatgctgat gagtttagagt atttatcagt tgatgattat 540  
 tacgatttaa agtcttttaa aatttcaaaa tccaacgata cttcttttgc tgtaaatgtt 600  
 aatgccaaaa aaaatgatgt tactaaaaat tttccatttt ggaaagaacg tcaaaacttta 660  
 atttttacta cagaggatga taataattgg tttttgtctt ccataaattg a 711

<210> 236  
 <211> 668  
 <212> PRT  
 <213> Homo sapiens

<400> 236  
 Met Leu Ile Phe Gly Phe Ile Gly Leu Phe Phe Leu Asn Ile Phe Ser  
 1 5 10 15  
 Leu His Ala Gln Gly Ile Val Thr Asn Lys Asp Ala Gln Glu Glu Phe  
 20 25 30  
 Lys Trp Ala Leu Asn Ser Tyr Asn Asn Gly Ile Tyr Asp Asp Ala Leu  
 35 40 45  
 Leu Ser Phe Lys Lys Ile Leu Ser Phe Asp Pro Asn Asn Leu Asp Tyr  
 50 55 60  
 His Phe Trp Thr Gly Asn Val Tyr Tyr Arg Leu Gly Tyr Val Glu Glu

65	70	75	80
Ala Leu Met Glu Trp Arg Asn Leu Lys Asp Gln Gly Tyr Lys Val Pro	85	90	95
Tyr Leu Arg His Leu Ile Ser Thr Ile Glu Gln Arg Arg Gly Ile Phe	100	105	110
Ser Asn Tyr Glu Leu Asn Phe Lys Lys Leu Val Lys Val Ala Ser Leu	115	120	125
Asp Asn Ser Ile Tyr Lys Arg Pro His Gly Tyr Gln Ile Thr Ser Leu	130	135	140
Arg Ala Asp Lys Tyr Gly Gly Tyr Tyr Ala Ala Asn Phe Val Gly Asn	145	150	155
Glu Ile Leu Tyr Phe Asp Val Asn Asn Asn Val Asn Ala Leu Val Lys	165	170	175
Asp Gly Phe Ser Tyr Leu Lys Ser Pro Tyr Asp Val Ile Glu Ala Asn	180	185	190
Asn Leu Leu Tyr Val Thr Leu Tyr Ser Ser Asp Glu Ile Gly Val Tyr	195	200	205
Asp Lys Val Leu Gly Val Lys Arg Lys Ser Ile Gly Asn Lys Gly Thr	210	215	220
Lys Asp Gly Glu Leu Leu Ala Pro Gln Tyr Met Ala Ile Asp Lys Arg	225	230	235
Asn Tyr Ile Tyr Val Ser Glu Trp Gly Asn Lys Arg Val Ser Lys Phe	245	250	255
Gly Leu Glu Gly Asp Phe Ile Leu His Phe Gly Ser Arg Thr Ser Gly	260	265	270
Tyr Lys Gly Leu Leu Gly Pro Thr Gly Val Thr Tyr Leu Asn Glu Asn	275	280	285
Ile Tyr Val Ala Asp Ser Leu Arg Asn Thr Ile Glu Val Phe Asp Thr	290	295	300
Ser Gly Asn His Leu Tyr Ser Val Phe Thr Ser Ile Glu Gly Ile Glu	305	310	315
Gly Leu Ser Ser Asp Phe Val Gly Asn Asn Val Ile Val Ser Ser Lys	325	330	335
Asp Gly Val Tyr Lys Tyr Ser Ile Ala Lys Lys Thr Ile Thr Lys Ile	340	345	350
Leu Lys Ala Asp Lys Met Asn Ser Lys Ile Ser Ser Ser Ile Leu Asp	355	360	365
Ala Asn Asn Gln Met Ile Val Ser Asp Phe Asn Asn Ala Lys Val Ser	370	375	380

Val Tyr Lys Ser Asp Ala Ser Leu Tyr Asp Ser Leu Asn Val Asp Val  
 385 390 395 400  
 Arg Arg Ile Ile Arg Leu Gly Gly Pro Lys Ile Tyr Val Glu Leu Asn  
 405 410 415  
 Val Ser Ser Lys Ser Gly Leu Pro Val Val Gly Leu Lys Ser Glu Asn  
 420 425 430  
 Phe Ser Ile Ser Asn Glu Asn Tyr Tyr Ile Val Asn Pro Lys Val Ala  
 435 440 445  
 Tyr Asn Val Asn Ala Ser Lys Asp Ile Asn Ile Ala Val Val Phe Asp  
 450 455 460  
 Lys Ser Ser Tyr Met Lys Lys Tyr Asp Thr Asp Gln Ile Val Gly Leu  
 465 470 475 480  
 Asn Ala Leu Met Glu Leu Ser Lys Asn Lys Asn Phe Ser Phe Ile Asn  
 485 490 495  
 Ala Thr Ser Val Pro Ile Ile Asp Asn Ile Glu Ser Leu Thr Asn Ser  
 500 505 510  
 Ile Arg Asn Thr Ser Ser Leu Gly Pro Tyr Ser Thr Asp Ala Val Lys  
 515 520 525  
 Thr Asp Val Ser Leu Lys Leu Ala Gly Ser Gly Leu Met Ser Lys Ser  
 530 535 540  
 Ser Arg Arg Ala Val Val Tyr Phe Ser Gly Gly Ile Leu Asn Arg Lys  
 545 550 555 560  
 Ala Phe Glu Lys Tyr Ser Leu Asp Thr Ile Val Ser Tyr Tyr Lys Asn  
 565 570 575  
 Asn Asp Ile Arg Phe Tyr Leu Ile Leu Phe Gly Asn Asp Pro Ile Asn  
 580 585 590  
 Ser Lys Leu Gln Tyr Leu Val Asn Glu Thr Gly Gly Ala Val Ile Pro  
 595 600 605  
 Phe Ser Ser Tyr Glu Gly Val Ser Lys Val Tyr Asp Leu Ile Leu Glu  
 610 615 620  
 Gln Lys Thr Gly Thr Tyr Leu Leu Glu Tyr Tyr Tyr Pro Gly Pro Gln  
 625 630 635 640  
 Glu Pro Asn Lys Tyr Phe Asn Leu Ser Val Glu Ala Asn Ile Asn Gln  
 645 650 655  
 Gln Thr Gly Arg Gly Glu Phe Ala Tyr Phe Ile Asn  
 660 665

&lt;210&gt; 237

&lt;211&gt; 649

&lt;212&gt; PRT



&lt;213&gt; Homo sapiens

&lt;400&gt; 237

Gln Gly Ile Val Thr Asn Lys Asp Ala Gln Glu Glu Phe Lys Trp Ala  
 1 5 10 15

Leu Asn Ser Tyr Asn Asn Gly Ile Tyr Asp Asp Ala Leu Leu Ser Phe  
 20 25 30

Lys Lys Ile Leu Ser Phe Asp Pro Asn Asn Leu Asp Tyr His Phe Trp  
 35 40 45

Thr Gly Asn Val Tyr Tyr Arg Leu Gly Tyr Val Glu Glu Ala Leu Met  
 50 55 60

Glu Trp Arg Asn Leu Lys Asp Gln Gly Tyr Lys Val Pro Tyr Leu Arg  
 65 70 75 80

His Leu Ile Ser Thr Ile Glu Gln Arg Arg Gly Ile Phe Ser Asn Tyr  
 85 90 95

Glu Leu Asn Phe Lys Lys Leu Val Lys Val Ala Ser Leu Asp Asn Ser  
 100 105 110

Ile Tyr Lys Arg Pro His Gly Tyr Gln Ile Thr Ser Leu Arg Ala Asp  
 115 120 125

Lys Tyr Gly Gly Tyr Tyr Ala Ala Asn Phe Val Gly Asn Glu Ile Leu  
 130 135 140

Tyr Phe Asp Val Asn Asn Asn Val Asn Ala Leu Val Lys Asp Gly Phe  
 145 150 155 160

Ser Tyr Leu Lys Ser Pro Tyr Asp Val Ile Glu Ala Asn Asn Leu Leu  
 165 170 175

Tyr Val Thr Leu Tyr Ser Ser Asp Glu Ile Gly Val Tyr Asp Lys Val  
 180 185 190

Leu Gly Val Lys Arg Lys Ser Ile Gly Asn Lys Gly Thr Lys Asp Gly  
 195 200 205

Glu Leu Leu Ala Pro Gln Tyr Met Ala Ile Asp Lys Arg Asn Tyr Ile  
 210 215 220

Tyr Val Ser Glu Trp Gly Asn Lys Arg Val Ser Lys Phe Gly Leu Glu  
 225 230 235 240

Gly Asp Phe Ile Leu His Phe Gly Ser Arg Thr Ser Gly Tyr Lys Gly  
 245 250 255

Leu Leu Gly Pro Thr Gly Val Thr Tyr Leu Asn Glu Asn Ile Tyr Val  
 260 265 270

Ala Asp Ser Leu Arg Asn Thr Ile Glu Val Phe Asp Thr Ser Gly Asn  
 275 280 285

His Leu Tyr Ser Val Phe Thr Ser Ile Glu Gly Ile Glu Gly Leu Ser

290					295					300					
Ser	Asp	Phe	Val	Gly	Asn	Asn	Val	Ile	Val	Ser	Ser	Lys	Asp	Gly	Val
305					310					315					320
Tyr	Lys	Tyr	Ser	Ile	Ala	Lys	Lys	Thr	Ile	Thr	Lys	Ile	Leu	Lys	Ala
				325					330					335	
Asp	Lys	Met	Asn	Ser	Lys	Ile	Ser	Ser	Ser	Ile	Leu	Asp	Ala	Asn	Asn
			340					345					350		
Gln	Met	Ile	Val	Ser	Asp	Phe	Asn	Asn	Ala	Lys	Val	Ser	Val	Tyr	Lys
		355					360					365			
Ser	Asp	Ala	Ser	Leu	Tyr	Asp	Ser	Leu	Asn	Val	Asp	Val	Arg	Arg	Ile
		370				375					380				
Ile	Arg	Leu	Gly	Gly	Pro	Lys	Ile	Tyr	Val	Glu	Leu	Asn	Val	Ser	Ser
385					390					395					400
Lys	Ser	Gly	Leu	Pro	Val	Val	Gly	Leu	Lys	Ser	Glu	Asn	Phe	Ser	Ile
			405					410						415	
Ser	Asn	Glu	Asn	Tyr	Tyr	Ile	Val	Asn	Pro	Lys	Val	Ala	Tyr	Asn	Val
		420					425						430		
Asn	Ala	Ser	Lys	Asp	Ile	Asn	Ile	Ala	Val	Val	Phe	Asp	Lys	Ser	Ser
		435				440						445			
Tyr	Met	Lys	Lys	Tyr	Asp	Thr	Asp	Gln	Ile	Val	Gly	Leu	Asn	Ala	Leu
	450					455					460				
Met	Glu	Leu	Ser	Lys	Asn	Lys	Asn	Phe	Ser	Phe	Ile	Asn	Ala	Thr	Ser
465					470					475					480
Val	Pro	Ile	Ile	Asp	Asn	Ile	Glu	Ser	Leu	Thr	Asn	Ser	Ile	Arg	Asn
			485						490					495	
Thr	Ser	Ser	Leu	Gly	Pro	Tyr	Ser	Thr	Asp	Ala	Val	Lys	Thr	Asp	Val
			500					505					510		
Ser	Leu	Lys	Leu	Ala	Gly	Ser	Gly	Leu	Met	Ser	Lys	Ser	Ser	Arg	Arg
		515					520					525			
Ala	Val	Val	Tyr	Phe	Ser	Gly	Gly	Ile	Leu	Asn	Arg	Lys	Ala	Phe	Glu
		530				535					540				
Lys	Tyr	Ser	Leu	Asp	Thr	Ile	Val	Ser	Tyr	Tyr	Lys	Asn	Asn	Asp	Ile
545					550					555					560
Arg	Phe	Tyr	Leu	Ile	Leu	Phe	Gly	Asn	Asp	Pro	Ile	Asn	Ser	Lys	Leu
			565					570						575	
Gln	Tyr	Leu	Val	Asn	Glu	Thr	Gly	Gly	Ala	Val	Ile	Pro	Phe	Ser	Ser
		580						585					590		
Tyr	Glu	Gly	Val	Ser	Lys	Val	Tyr	Asp	Leu	Ile	Leu	Glu	Gln	Lys	Thr
		595					600					605			

Gly Thr Tyr Leu Leu Glu Tyr Tyr Tyr Pro Gly Pro Gln Glu Pro Asn  
610 615 620

Lys Tyr Phe Asn Leu Ser Val Glu Ala Asn Ile Asn Gln Gln Thr Gly  
625 630 635 640

Arg Gly Glu Phe Ala Tyr Phe Ile Asn  
645

<210> 238

<211> 2007

<212> DNA

<213> Homo sapiens

<400> 238

```

atggttaattt ttggtttttat tgggtttgttt ttttttaaata ttttttagttt gcatgcccac 60
ggaatagtta ctaataaaga tgctcaagaa gagtttaaat gggctcttaa ttcttataat 120
aatggaattt acgatgatgc tcttttatct tttaaaaaaa ttttaagctt tgatcctaata 180
aatcttgatt atcattttttg gactggcaat gtttattata gactgggtta tgttgaagaa 240
gctttaatgg aatggagaaa tttaaaagat caaggctata aggttcccta tcttagacat 300
ttgattttcta ctattgagca aaggagaggt attttttcaa attatgaact taattttaaa 360
aaacttgtaa aagttgcttc tcttgataat tctattttata aaaggccaca tgggtaccag 420
attacatctt taagggctga taagtacggc ggatattacg ctgctaactt tgtaggcaat 480
gaaatattgt attttgatgt taataacaat gttaatgctt tagttaaaga tggctttagt 540
tatttaaaat caccttatga tgttattgaa gctaataatc tgctttatgt gactctttat 600
tcaagtgatg aaattgggtgt ttatgacaaa gttcttggag ttaaaaggaa atctattggg 660
aataaaggca caaaagatgg cgaattgctt gctcctcagt atatggctat tgataagaga 720
aactatatct atgtaagtga gtggggaaat aaaagagtaa gtaaatttgg acttgaaggt 780
gattttattt tgcatttttg ttctagaact tcaggctata agggcctttt aggtcccaca 840
ggcgttactt atttgaatga aaacattttat gttgcagatt ctctgagaaa taccattgaa 900
gtttttgata ctagtggtaa tcatatttat tcagttttta cttctattga gggaatagag 960
gggcttagca gtgattttgt aggtataaat gttatagtat cctcaaaaaga tgggtgtttat 1020
aaatatagca ttgctaaaaa gacaattaca aaaattttta aagcagataa aatgaattct 1080
aaaatttctt catctatttt ggatgccaat aatcagatga ttgtctcaga ttttaataat 1140
gccaagggtt cagttttaca gagtgatgca agcctttatg atagtttaaa tgttgatgtt 1200
agaagaataa ttaggcttgg agggcctaaa atttacgttg agcttaatgt tagcagtaaa 1260
agcggtttac cagttgttgg gcttaaaagt gaaaattttt caattttcaa tgaaaattat 1320
tacattgtca atcccaaggt ggcataatat gtaaattgct caaaaagacat taatatagca 1380
gttgtttttg ataaatcttc ttatatgaaa aaatatgata cagatcaaat ttagagggtta 1440
aatgccttaa tggagttgtc aaaaaataaa aacttttagt ttataaatgc aacaaggttg 1500
cccattatag ataattattga aagcttaaca aatagcatta gaaatacaag ttctcttggt 1560
ccttatagta cagatgctgt aaaaacagac gttagtttga agttggcagg ttctgggctt 1620
atgtcaaaaa gctcaagaag agcagtagtt tatttttagtg gtgggtattt aaatcgtaaa 1680
gcttttgaaa agtactcttt agatacaata gtaagctatt ataaaaataa tgatataagg 1740
ttttacttaa tactatttgg taatgatcct attaatagta agcttcagta ttttagttaat 1800
gaaacaggcg gtgctgtaat tcctttttca tcttatgaag gtgtatctaa agtttatgat 1860
ttaatttttag aacaaaaaac gggcacttat ttgttggaa attattatcc aggccctcaa 1920
gaaccttaata aatattttta tttatctgtt gaagcaaata taaatcaaca gacaggaaga 1980
ggggagtttg catattttat taattag 2007

```

<210> 239

<211> 1950

<212> DNA

<213> Homo sapiens

<400> 239

caaggaatag ttactaataa agatgctcaa gaagagttta aatgggctct taattcttat 60

```

aataatggaa tttacgatga tgctctttta tcttttaaaa aaattttaag ctttgatcct 120
aataatccttg attatcattt ttggactggc aatgtttatt atagactggg ttatggtgaa 180
gaagcttttaa tggaatggag aaattttaaaa gatcaaggct ataagggtcc ctatcttaga 240
catttgattt ctactattga gcaaaggaga ggtatttttt caaattatga acttaatttt 300
aaaaaacttg taaaagttgc ttctcttgat aattctattt ataaaaggcc acatgggtac 360
cagattacat ctttaagggc tgataagtac ggcggatatt acgctgctaa ctttgtaggc 420
aatgaaatat tgtattttga tgtaataaac aatgttaatg ctttagttaa agatggcttt 480
agttatttaa aatcacctta tgatgttatt gaagctaata atctgcttta tgtgactcct 540
tattcaagtg atgaaattgg tgtttatgac aaagttcttg gagttaaag gaaatctatt 600
gggaataaag gcacaaaaga tggcgaattg ctgtctctc agtatatggc tattgataag 660
agaaactata tttatgtaag tgagtgggga aataaaaagag taagtaaatt tggacttgaa 720
ggtgatttta ttttgcattt tgggtctaga acttcaggct ataagggcct tttaggtccc 780
acaggcggtta cttatttgaa tgaaaacatt tatgttgacag attctctgag aaataccatt 840
gaagtttttg atactagtgg taatcattta tttcagttt ttacttctat tgaggggaata 900
gaggggctta gcagtgtatt tgtaggtaat aatgttatag tatcctcaaa agatgggtgt 960
tataaatata gcattgctaa aaagacaatt acaaaaattt taaaagcaga taaaatgaat 1020
tctaaaattt cttcatctat tttggatgcc aataatcaga tgattgtctc agattttaat 1080
aatgccaaagg tttcagttta caagagtgat gcaagccttt atgatagttt aaatgttgat 1140
gttagaagaa taattaggct tggagggcct aaaatttacg ttgagcttaa tgttagcagt 1200
aaaagcggat taccagttgt tgggcttaaa agtgaaaatt tttcaatttc aaatgaaaat 1260
tattacattg tcaatcccaa ggtggcatat aatgtaaag cttcaaaaaga cattaatata 1320
gcagttgttt ttgataaatc ttcttatatg aaaaaatatg atacagatca aattgtaggg 1380
ttaaattgccc taatggagtt gtcaaaaaat aaaaacttta gttttataaa tgcaacaagt 1440
gtgcccatta tagataatat tgaaagctta acaaatagca ttagaaatc aagttctctt 1500
ggtccttata gtacagatgc tgtaaaaaca gacgttagtt tgaagttggc aggttctggg 1560
cttatgtcaa aaagctcaag aagagcagta gtttatttta gtgggtggat tttaaatcgt 1620
aaagcttttg aaaagtactc tttagataca atagtaagct attataaaaa taatgatata 1680
aggttttact taatactatt tggtaatgat cctattaata gtaagcttca gtatttagtt 1740
aatgaaacag gcggtgctgt aattcctttt tcattcttatg aagggtgata taaagtttat 1800
gatttaattt tagaacaaaa aacgggcact tatttgttgg aatattatta tccaggccct 1860
caagaacctt ataaatattt taatttatct gttgaagcaa atataaatca acagacagga 1920
agaggggagt ttgcatattt tattaattag 1950

```

&lt;210&gt; 240

&lt;211&gt; 274

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 240

```

Met Ile Lys Ser Ile Leu Asp Tyr Leu Leu Thr Leu His Pro Val Leu
1 5 10 15

```

```

Leu Gly Leu Leu Gly Ser Thr Phe Thr Trp Phe Thr Thr Ala Phe Gly
20 25 30

```

```

Ala Ala Ala Val Phe Phe Phe Arg Lys Val Asp Asn Lys Ile Met Asp
35 40 45

```

```

Ala Met Leu Gly Phe Ser Ala Gly Ile Met Ile Ala Ala Ser Phe Phe
50 55 60

```

```

Ser Leu Ile Gln Pro Ala Ile Glu Arg Ala Glu Glu Leu Gly Tyr Ile
65 70 75 80

```

```

Thr Trp Val Pro Ala Val Phe Gly Phe Leu Val Gly Ala Phe Phe Ile
85 90 95

```

```

Tyr Ile Val Asp Val Phe Val Pro Asp Leu Asp Lys Leu Thr Phe Ile

```

100	105	110
Asp Glu Asp 115	Leu Thr Lys His Gly 120	Lys Lys Asp Phe Leu Phe Thr 125
Ala Val Thr 130	Leu His Asn Phe Pro Glu Gly 135	Leu Ala Val Gly Val Ala 140
Phe Gly Ala 145	Leu Ala Ser Asn Pro Asp Ile Gln Thr 150 155	Leu Val Gly Ala 160
Met Leu Leu Thr 165	Leu Gly Ile Gly Ile Gln Asn Ile Pro Glu Gly 170 175	Ala Lys Cys 190
Ala Ile Ser 180	Leu Pro Leu Arg Arg Gly Asn Val Ala 185 190	Leu Lys Cys 190
Phe Asn Tyr 195	Gly Gln Met Ser Gly Leu Val Glu Ile Val Gly Gly Leu 200 205	
Met Gly Ala Tyr 210	Ala Val Tyr Ser Phe Thr Arg Ile Leu Pro Phe Ala 215 220	
Leu Ala Phe Ser 225	Ala Gly Ala Met Ile Tyr Val Ser Ile Glu Gln Leu 230 235 240	
Ile Pro Glu 245	Ala Lys Arg Lys Asp Ile Asp Asn Lys Val Pro Ser Ile 245 250 255	
Phe Gly Val 260	Ile Gly Phe Thr Leu Met Met Phe Leu Asp Val Ser Leu 265 270	

Gly Glx

<210> 241  
 <211> 240  
 <212> PRT  
 <213> Homo sapiens

<400> 241  
 Ala Val Phe Phe Phe Arg Lys Val Asp Asn Lys Ile Met Asp Ala Met  
 1 5 10 15  
 Leu Gly Phe Ser Ala Gly Ile Met Ile Ala Ala Ser Phe Phe Ser Leu  
 20 25 30  
 Ile Gln Pro Ala Ile Glu Arg Ala Glu Glu Leu Gly Tyr Ile Thr Trp  
 35 40 45  
 Val Pro Ala Val Phe Gly Phe Leu Val Gly Ala Phe Phe Ile Tyr Ile  
 50 55 60  
 Val Asp Val Phe Val Pro Asp Leu Asp Lys Leu Thr Phe Ile Asp Glu  
 65 70 75 80  
 Asp Leu Thr Lys His Gly Lys Lys Asp Phe Leu Leu Phe Thr Ala Val  
 85 90 95

Thr Leu His Asn Phe Pro Glu Gly Leu Ala Val Gly Val Ala Phe Gly  
 100 105 110  
 Ala Leu Ala Ser Asn Pro Asp Ile Gln Thr Leu Val Gly Ala Met Leu  
 115 120 125  
 Leu Thr Leu Gly Ile Gly Ile Gln Asn Ile Pro Glu Gly Ala Ala Ile  
 130 135 140  
 Ser Leu Pro Leu Arg Arg Gly Asn Val Ala Leu Ala Lys Cys Phe Asn  
 145 150 155 160  
 Tyr Gly Gln Met Ser Gly Leu Val Glu Ile Val Gly Gly Leu Met Gly  
 165 170 175  
 Ala Tyr Ala Val Tyr Ser Phe Thr Arg Ile Leu Pro Phe Ala Leu Ala  
 180 185 190  
 Phe Ser Ala Gly Ala Met Ile Tyr Val Ser Ile Glu Gln Leu Ile Pro  
 195 200 205  
 Glu Ala Lys Arg Lys Asp Ile Asp Asn Lys Val Pro Ser Ile Phe Gly  
 210 215 220  
 Val Ile Gly Phe Thr Leu Met Met Phe Leu Asp Val Ser Leu Gly Glx  
 225 230 235 240

<210> 242  
 <211> 822  
 <212> DNA  
 <213> Homo sapiens

<400> 242  
 atgataaaaat caatttttaga ttattttatta actttgcatc ctgtattatt gggactttta 60  
 ggttctactt tcaacttggtt tactacagct tttggagcag cagcagtttt tttcttttaga 120  
 aaggtagata ataaaataat ggacgctatg cttgggttttt cagctggcat tatgatagcg 180  
 gccagttttt tttcgcttat tcagcctgct atagaaagag ctgaagagct tggatacatt 240  
 acttgggtgc cggctgtttt tggatttctt gttggggcat tttttatata tattgtagat 300  
 gtatttggtc cagatctgga taaacttact tttattgatg aagacttaac taaacatggt 360  
 aaaaaagatt ttttactctt tactgctggt actttacata attttccaga aggattggct 420  
 gttggagttg cttttggagc cttggcgtct aatccagata ttcaaacttt agttggggct 480  
 atgcttctta cgcttggtat tggatttcaa aatattcccg aaggagcagc tatttctctg 540  
 cctttaagaa gaggtaatgt tgctttggca aaatgcttta actatggcca aatgtcagga 600  
 ttggtagaaa ttgtgggggg gcttatgggt gcttatgcgg tttattcttt tactcgaatt 660  
 ttaccttttg ctttggtttt ttctgcagga gctatgattt atgtgtcaat tgaacaatta 720  
 atacctgaag ctaagagaaa agacattgac aataaagtgc caagtatatt tgggtgttatt 780  
 ggttttacat taatgatggt tctcgatggt tcactagggt aa 822

<210> 243  
 <211> 720  
 <212> DNA  
 <213> Homo sapiens

<400> 243

```

gcagtttttt tctttagaaa ggtagataat aaaataatgg acgctatgct tggtttttca 60
gctggcatta tgatagcggc cagttttttt tcgcttattc agcctgctat agaaagagct 120
gaagagcttg gatacattac ttgggtgccg gctgtttttg gatttcttgt tggggcattt 180
tttatatata ttgtagatgt atttgttcca gatctggata aacttacttt tattgatgaa 240
gacttaacta aacatggtaa aaaagatttt ttactcttta ctgctgttac ttacataat 300
ttccagaag gattggctgt tggagttgct tttggagcct tggcgtctaa tccagatatt 360
caaaccttag ttggggctat gcttcttacg cttggtattg gtattcaaaa tattcccgaa 420
ggagcagcta tttctctgcc ttttaagaaga ggtaatgttg ctttggcaaa atgctttaac 480
tatggccaaa tgtcaggatt ggtagaaatt gtgggggggc ttatgggtgc ttatgcggtt 540
tattctttta ctgcaatttt accttttgct ttggcttttt ctgcaggagc tatgatttat 600
gtgtcaattg aacaattaat acctgaagct aagagaaaag acattgacaa taaagtgcc 660
agtatatattg gtgttattgg ttttacatta atgatgtttc tcgatgtttc actagggttaa 720

```

<210> 244

<211> 753

<212> PRT

<213> Homo sapiens

<400> 244

```

Met Leu Leu Lys Leu Lys Tyr Arg Phe Val Gly Phe Leu Leu Leu Phe
  1             5             10             15

```

```

Leu Ile Phe Ile Leu Leu Leu Phe Ser Thr Ile Phe Asn Phe Val Leu
      20             25             30

```

```

Cys Gly Tyr Leu Glu Asp Tyr Tyr Lys Gln Leu Thr Arg Ala Gln Val
      35             40             45

```

```

Arg Arg Ala Ala Phe Ser Leu Gln Ser Phe Leu Asp Thr Leu His Val
      50             55             60

```

```

Ile Ile Asn Gly Ala Ala Ser Asn Leu Ala Leu Glu Thr Ile Ser Glu
      65             70             75             80

```

```

Phe Ala Met Ser Glu Asn Arg Gly Lys Asp Phe Ser Glu Ser Glu Leu
      85             90             95

```

```

Ile Asp Leu Arg Lys Asn Pro Lys Phe Val Ile Asp Ser Val Lys Val
      100            105            110

```

```

Ser Lys Lys Tyr Arg Gln Tyr Leu Tyr Asn Phe Met Ala Asn Leu Lys
      115            120            125

```

```

Asn Asp Thr Leu Phe Glu Glu Phe Ala Phe Phe Asp Phe Glu Gly Arg
      130            135            140

```

```

Val Ile Val Ser Thr Arg His Glu Asn Asn Met Asp Phe Gly His Ser
      145            150            155            160

```

```

Glu Ala Asn Thr Asn Tyr Phe Lys Lys Ala Val Glu Asp Tyr Arg Gln
      165            170            175

```

```

Asn Gln Leu Lys Phe Ile Gly Trp Tyr Ser Asn Leu Ser Glu Gly Ile
      180            185            190

```

```

Ser Ala Glu Val Ala Ile Arg Ser Lys Gln Ser Glu Lys Lys Ala Phe
      195            200            205

```

Ala Ile Ile Val Pro Val Tyr Ser Pro Glu Asp Lys Leu Val Cys Gly  
 210 215 220  
 Tyr Leu Ala Gly Tyr Leu Leu Asn Asp Ile Val Ala Asp Ser Phe Asp  
 225 230 235 240  
 Arg Phe Arg Phe Gly Phe Tyr Lys Arg Gly Asn Phe Ile Tyr Val Asp  
 245 250 255  
 Pro Asn Asn Ile Ala Val Asn Pro Phe Glu Glu Tyr Asn Glu Thr Ser  
 260 265 270  
 Arg Val Ser Ser Lys Phe Leu Asn Val Leu Lys Asp Val Phe Ser Lys  
 275 280 285  
 Pro Pro Phe Pro Ser Asn Ile Ala Ser Glu Val Ser Val Tyr Thr Ile  
 290 295 300  
 Asp Arg Ile Leu Leu Ser Glu Met Gly Glu Asp Cys Tyr Tyr Ala Met  
 305 310 315 320  
 Leu Pro Ile Ser Ser Lys Leu Gly Glu Lys Ser Gly Val Leu Ile Ala  
 325 330 335  
 Arg Leu Pro Tyr Lys Asp Ile Tyr Gly Val Ile Ser Ser Leu Arg Phe  
 340 345 350  
 Gln Tyr Ile Leu Tyr Ser Val Leu Gly Ile Ile Ala Leu Ser Ile Val  
 355 360 365  
 Leu Ser Ile Arg Ile Asp Arg Ile Ile Ser Phe Arg Leu Asn Ala Ile  
 370 375 380  
 Arg Val Leu Val Gln Asp Met Val Lys Gly Asn Leu Asp Lys Asp Tyr  
 385 390 395 400  
 Ala Leu Asp Asp Asp Glu Asn Thr Leu Asp Glu Leu Gly Met Leu Ser  
 405 410 415  
 Leu Gln Val Val Lys Met Lys Lys Ala Ile Ser Val Ala Ile Ser Ser  
 420 425 430  
 Val Leu Arg Asn Ile Ser Tyr Val Asn Lys Ala Ser Leu Glu Val Ala  
 435 440 445  
 Ser Ser Ser Gln Asn Leu Ser Ser Ser Ala Leu Gln Gln Ala Ser Ala  
 450 455 460  
 Leu Glu Glu Met Ser Ala Asn Val Glu Gln Ile Ala Ser Gly Val Asn  
 465 470 475 480  
 Met Ser Ala Asn Asn Ser Tyr Glu Thr Glu Gln Ile Ala Leu Lys Thr  
 485 490 495  
 Asn Glu Asn Ser Gln Ile Gly Gly Arg Ala Val Glu Glu Ser Val Ile  
 500 505 510  
 Ala Met Gln Asp Ile Val Glu Lys Val Ser Val Ile Glu Glu Ile Ala



515	520	525
Arg Lys Thr Asn Leu Leu Ala Leu Asn Ala Ala Ile Glu Ala Ala Arg		
530	535	540
Ala Gly Asp Glu Gly Lys Gly Phe Ala Val Val Ala Ser Glu Ile Arg		
545	550	555 560
Lys Leu Ala Asp Leu Ser Lys Ile Ser Ala Leu Glu Ile Gly Glu Leu		
	565	570 575
Val Glu Asp Asn Ser Lys Val Ala Thr Glu Ala Gly Val Ile Phe Lys		
	580	585 590
Glu Met Leu Pro Glu Ile Glu Glu Thr Ala Asn Leu Val Lys Lys Ile		
	595	600 605
Ser Glu Gly Ser Ser Lys Gln Ser Asp Gln Ile Ala Gln Phe Lys Met		
	610	615 620
Ala Leu Asp Gln Val Gly Glu Val Val Gln Ser Ser Ala Ser Ser Ser		
625	630	635 640
Glu Gln Leu Ser Ser Met Ser Asp Lys Met Leu Glu Lys Ser Lys Glu		
	645	650 655
Leu Arg Lys Ser Val Leu Phe Phe Lys Ile Lys Asp Ser Lys Ile Glu		
	660	665 670
Asn Pro Glu Asn Asp Asp Tyr Asp Phe Arg Leu Ile Asp Cys Pro Glu		
	675	680 685
Asn Ser Phe Lys Asp Glu Asn Gln Asn Leu Lys Ser Asn Gly Ile Ser		
	690	695 700
Thr Ser Asn Ala Ser Gly His Asn Asn Tyr Ser Leu Asp Ile Glu Ser		
705	710	715 720
Glu Ser Ser Val Arg Thr Ile Asn Lys Arg Val Asp Pro Lys Lys Ala		
	725	730 735
Ile Asp Ile Ala Asp Lys Asp Leu Asn Phe Asp Asp Asp Phe Ser Glu		
	740	745 750

Phe

&lt;210&gt; 245

&lt;211&gt; 723

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 245

Val	Leu	Cys	Gly	Tyr	Leu	Glu	Asp	Tyr	Tyr	Lys	Gln	Leu	Thr	Arg	Ala
1					5				10					15	

Gln	Val	Arg	Arg	Ala	Ala	Phe	Ser	Leu	Gln	Ser	Phe	Leu	Asp	Thr	Leu
								20		25			30		

His Val Ile Ile Asn Gly Ala Ala Ser Asn Leu Ala Leu Glu Thr Ile  
 35 40 45  
 Ser Glu Phe Ala Met Ser Glu Asn Arg Gly Lys Asp Phe Ser Glu Ser  
 50 55 60  
 Glu Leu Ile Asp Leu Arg Lys Asn Pro Lys Phe Val Ile Asp Ser Val  
 65 70 75 80  
 Lys Val Ser Lys Lys Tyr Arg Gln Tyr Leu Tyr Asn Phe Met Ala Asn  
 85 90 95  
 Leu Lys Asn Asp Thr Leu Phe Glu Glu Phe Ala Phe Phe Asp Phe Glu  
 100 105 110  
 Gly Arg Val Ile Val Ser Thr Arg His Glu Asn Asn Met Asp Phe Gly  
 115 120 125  
 His Ser Glu Ala Asn Thr Asn Tyr Phe Lys Lys Ala Val Glu Asp Tyr  
 130 135 140  
 Arg Gln Asn Gln Leu Lys Phe Ile Gly Trp Tyr Ser Asn Leu Ser Glu  
 145 150 155 160  
 Gly Ile Ser Ala Glu Val Ala Ile Arg Ser Lys Gln Ser Glu Lys Lys  
 165 170 175  
 Ala Phe Ala Ile Ile Val Pro Val Tyr Ser Pro Glu Asp Lys Leu Val  
 180 185 190  
 Cys Gly Tyr Leu Ala Gly Tyr Leu Leu Asn Asp Ile Val Ala Asp Ser  
 195 200 205  
 Phe Asp Arg Phe Arg Phe Gly Phe Tyr Lys Arg Gly Asn Phe Ile Tyr  
 210 215 220  
 Val Asp Pro Asn Asn Ile Ala Val Asn Pro Phe Glu Glu Tyr Asn Glu  
 225 230 235 240  
 Thr Ser Arg Val Ser Ser Lys Phe Leu Asn Val Leu Lys Asp Val Phe  
 245 250 255  
 Ser Lys Pro Pro Phe Pro Ser Asn Ile Ala Ser Glu Val Ser Val Tyr  
 260 265 270  
 Thr Ile Asp Arg Ile Leu Leu Ser Glu Met Gly Glu Asp Cys Tyr Tyr  
 275 280 285  
 Ala Met Leu Pro Ile Ser Ser Lys Leu Gly Glu Lys Ser Gly Val Leu  
 290 295 300  
 Ile Ala Arg Leu Pro Tyr Lys Asp Ile Tyr Gly Val Ile Ser Ser Leu  
 305 310 315 320  
 Arg Phe Gln Tyr Ile Leu Tyr Ser Val Leu Gly Ile Ile Ala Leu Ser  
 325 330 335

Ile Val Leu Ser Ile Arg Ile Asp Arg Ile Ile Ser Phe Arg Leu Asn  
 340 345 350  
 Ala Ile Arg Val Leu Val Gln Asp Met Val Lys Gly Asn Leu Asp Lys  
 355 360 365  
 Asp Tyr Ala Leu Asp Asp Asp Glu Asn Thr Leu Asp Glu Leu Gly Met  
 370 375 380  
 Leu Ser Leu Gln Val Val Lys Met Lys Lys Ala Ile Ser Val Ala Ile  
 385 390 395 400  
 Ser Ser Val Leu Arg Asn Ile Ser Tyr Val Asn Lys Ala Ser Leu Glu  
 405 410 415  
 Val Ala Ser Ser Ser Gln Asn Leu Ser Ser Ser Ala Leu Gln Gln Ala  
 420 425 430  
 Ser Ala Leu Glu Glu Met Ser Ala Asn Val Glu Gln Ile Ala Ser Gly  
 435 440 445  
 Val Asn Met Ser Ala Asn Asn Ser Tyr Glu Thr Glu Gln Ile Ala Leu  
 450 455 460  
 Lys Thr Asn Glu Asn Ser Gln Ile Gly Gly Arg Ala Val Glu Glu Ser  
 465 470 475 480  
 Val Ile Ala Met Gln Asp Ile Val Glu Lys Val Ser Val Ile Glu Glu  
 485 490 495  
 Ile Ala Arg Lys Thr Asn Leu Leu Ala Leu Asn Ala Ala Ile Glu Ala  
 500 505 510  
 Ala Arg Ala Gly Asp Glu Gly Lys Gly Phe Ala Val Val Ala Ser Glu  
 515 520 525  
 Ile Arg Lys Leu Ala Asp Leu Ser Lys Ile Ser Ala Leu Glu Ile Gly  
 530 535 540  
 Glu Leu Val Glu Asp Asn Ser Lys Val Ala Thr Glu Ala Gly Val Ile  
 545 550 555 560  
 Phe Lys Glu Met Leu Pro Glu Ile Glu Glu Thr Ala Asn Leu Val Lys  
 565 570 575  
 Lys Ile Ser Glu Gly Ser Ser Lys Gln Ser Asp Gln Ile Ala Gln Phe  
 580 585 590  
 Lys Met Ala Leu Asp Gln Val Gly Glu Val Val Gln Ser Ser Ala Ser  
 595 600 605  
 Ser Ser Glu Gln Leu Ser Ser Met Ser Asp Lys Met Leu Glu Lys Ser  
 610 615 620  
 Lys Glu Leu Arg Lys Ser Val Leu Phe Phe Lys Ile Lys Asp Ser Lys  
 625 630 635 640  
 Ile Glu Asn Pro Glu Asn Asp Asp Tyr Asp Phe Arg Leu Ile Asp Cys

```
<210> 246
<211> 2262
<212> DNA
<213> Homo sapiens
```

<400>	246					
atgttattga	agcttaaata	caggtttggt	ggattttttat	tattgttttt	aattttttata	60
ctgctacttt	tttccacgat	ttttaatttt	gttttatgcg	gttattttaga	agattatttat	120
aagcagctta	caaggggcgca	agtaagaaga	gcagcttttt	ctttgcaatc	tttttttagac	180
accctgcatg	tcataatcaa	tggtcagct	tctaatttgg	cacttgaaac	catatcagaa	240
tttgcaatgt	ctgagaatag	aggaaaagat	tctctgagt	cggaatttag	agatttaaga	300
aaaaatccaa	aatttgttat	tgactctgta	aagggtgagca	aaaaatatcg	acaatactta	360
tacaatttta	tggccaatct	taaaaaatgat	accctttttg	aagaattcgc	tttttttgat	420
tttgaaagga	gagtaattgt	tagcacaaga	catgagaata	atatggattt	tggtcattct	480
gaggcttaata	ccaattattt	taaaaaagct	gttgaggatt	ataggcaaaa	ccaattaaaa	540
tttataggtt	ggtataacaa	tctttctgaa	ggaattatccg	cagaagttgc	tattaggtct	600
aaacaaagcg	aaaaaaaggc	ttttgcaata	attgtacctg	tatattcccc	agaagataaa	660
cttgtttgtg	ggtatttggc	cggatatttg	cttaatgata	ttgtggcaga	tagttttgat	720
agatttagat	tcggttttta	taaaaagggc	aattttattt	atgtggatcc	caacaatata	780
gcagttaatc	cttttgaa	atataatgaa	accagcaggg	ttagttctaa	atttttgaat	840
gttcttaaa	atgttttctc	taagccccct	tttccatcaa	acattgccag	tgaagtgtcg	900
gtttacacta	ttgataagat	acttttgtcc	gaaattggag	aagattgtta	ttatgcaatg	960
ttgcccaata	gtagtaaatt	cggagaaaaag	agtgaggtac	ttattgtcgt	gttctcttat	1020
aaggatattt	acggagtaat	atctagtcta	agatttcagt	atattttata	ttcagttcta	1080
ggcattatag	cattaagtat	tgttctttca	attagaatag	acaggattat	tagttttcgt	1140
ttaaacgcaa	ttagagttct	agttcaagat	atgggttaagg	gcaattttaga	taaagattat	1200
gctcttgat	atgatgaaaa	tactcttgat	gaacttgcca	tgtaagtct	tcaggttgtt	1260
aaaaatgaaa	aagctatttt	tgtacgaatt	tctagtgttt	tgagaataat	tagctatgta	1320
aataaggcaa	gtttagaagt	tgccagttca	agtcaaaatt	taagctctag	tgcattgcaa	1380
caggcatctg	ctcttgaa	aatgtcagct	aatgttgagc	aaatagcctc	aggtgtcaac	1440
atgagcgcca	ataattctta	tgaacacaga	caaatagctt	taaagacgaa	tgaaaattct	1500
cagatagggt	gtagggccgt	tgaagaatct	gttatgtcta	tgcaagacat	tgtggagaaa	1560
gttagtgta	ttgaagagat	agctagaaaa	accaatttac	ttgctttgaa	tgccggtatt	1620
gaagctgcga	gagcaggaga	ttagggaaaag	ggatttgctg	ttgtggccag	tgagatttaga	1680
aagttggctg	atttgagtaa	aattttctgct	cttgagattg	gagagttagt	tgaagataac	1740
tctaaggtag	caactgaagc	gggagtgatc	tttaaagaaa	tgctaccgca	aattgaagaa	1800
acggctaata	ttgttaagaa	gatttcagaa	ggtagctcta	agcaaagcga	tcagattgct	1860
caatttaaaa	tggctttaga	tcaggttgga	gaagttgttc	aatcttcagc	ttcaagcagt	1920
gagcagcttt	ctagtatgtc	cgataaaaatg	ttagaaaagt	ctaaggaact	tagaaaaact	1980
gtattatttt	tcaaaattta	agattctaaa	attgaaaact	cagaaaaatga	tgattatgat	2040
ttcagggttaa	tagattgtcc	tgaaaaattct	tttaaagatg	aaaaatcaaaa	tttgaaaaqc	2100

```

aatggaatctt ctacttcaaa tgccagtggg cataataatt attctttaga tattgagagc 2160
gaatcttctg taagaactat taataagcga gttgatccta aaaaagctat cgatattgct 2220
gataaggatt taaatcttga tgatgatttt tcagagtttt ag 2262

```

&lt;210&gt; 247

&lt;211&gt; 2172

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 247

```

gttttatgcg gttattttaga agattattat aagcagctta caagggcgca agtaagaaga 60
gcagcttttt ctttgcaatc ttttttagac accctgcatg tcataatcaa tgggtgcagct 120
tctaatttgg cacttgaaac catatcagaa tttgcaatgt ctgagaatag agggaaaagat 180
ttctctgagt cggaattgat agattttaaga aaaaatccaa aatttggtat tgactctgta 240
aaggtgagca aaaaatatcg acaatactta tacaatttta tggccaatct taaaaatgat 300
accctttttg aagaattcgc tttttttgat tttgaaggga gagtaattgt tagcacaaga 360
catgagaata atatggattt tggtcattct gaggctaata ccaattatct taaaaaagct 420
gttgaggatt ataggcaaaa ccaattaaaa tttatagggt ggtattcaaa tctttctgaa 480
ggaatatccg cagaagtgtc tattaggtct aaacaaagcg aaaaaaaggc ttttgcaata 540
attgtacctg tatattcccc agaagataaa cttgtttgtg ggtatttggc cggatatttg 600
cttaatgata ttgtggcaga tagttttgat agatttagat tgggttttta taaaagaggc 660
aattttatct atgtggatcc caacaatata gcagttaatc cttttgaaga atataatgaa 720
accagcaggg ttagttctaa atttttgaat gttcttaaag atgttttctc taagccccct 780
tttccatcaa acattgccag tgaagtgtcg gtttactacta ttgatagaat acttttctcc 840
gaaatgggag aagattgtta ttatgcaatg ttgccataa gtagtaaat gggagaaaag 900
agtggagtag ttattgctag gcttccttat aaggatattt acggagtaat atctagtcta 960
agatttcagt atattttata ttcagttcta ggcattatag cattaagtat tgttctttca 1020
attagaatag acaggattat tagttttcgt taaacgcaa tttagagttct agttcaagat 1080
atgggttaagg gcaattttaga taaagattat gctcttgatg atgatgaaaa tactcttgat 1140
gaacttggca tggttaagtct tcagggttgtt aaaatgaaaa aagctatttc ttagcaatt 1200
tctagtgttt tgagaaatat tagctatgta aataaggcaa gttttagaagt tgccagttca 1260
agtcaaaatt taagctctag tgcattgcaa caggcatctg ctcttgaga aatgtcagct 1320
aatgttgagc aaatagcctc aggtgtcaac atgagcgcca ataattctta tgaaacagaa 1380
caaatagctt taaagcgaa tgaaaattct cagatagggt gtagggccgt tgaagaatct 1440
gttattgcta tgcaagacat tgtggagaaa gttagtgtta ttgaagagat agctagaaaa 1500
accaatttac ttgctttgaa tgcggctatt gaagctgcaa gagcaggaga tgagggaaaag 1560
ggatttgctg ttgtggccag tgagattaga aagttggctg atttgagtaa aatttctgct 1620
cttgagattg gagagttagt tgaagataac tctaaggtag caactgaagc gggagtgatc 1680
tttaaagaaa tgctaccgca aattgaagaa acggctaate ttgttaagaa gatttcagaa 1740
ggtagctcta agcaaagcga tcagattgct gagcagcttt ctagtatgtc cgataaaaatg 1800
gaagtgttgc aatcttcagc ttcaagcagt gtagcagctt ctagtatgtc cgataaaaatg 1860
ttagaaaagt ctaaggaact tagaaaatct gtattatttt tcaaaattaa agattctaaa 1920
attgaaaatc cagaaaatga tgattatgat ttcagggttaa tagattgtcc tgaaaattct 1980
tttaaagatg aaaatcaaaa tttgaaaagc aatggaattt ctacttcaaa tgccagtggg 2040
cataataatt attcttttaga tattgagagc gaatcttctg taagaactat taataagcga 2100
gttgatccta aaaaagctat cgatattgct gataaggatt taaatcttga tgatgatttt 2160
tcagagtttt ag 2172

```

&lt;210&gt; 248

&lt;211&gt; 383

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 248

```

Met Thr Ile Ser Lys Asn Val Phe Ser Lys Phe Ile Leu Lys Phe Leu
  1                      5                      10                      15

```

```

Asn Ser Ser Ala Phe Val Ser Val Phe Ala Leu Phe Val Gly Phe Leu

```

20					25					30					
Ile	Val	Gly	Leu	Val	Val	Met	Gly	Leu	Gly	His	Ser	Pro	Phe	Arg	Met
		35					40					45			
Tyr	Phe	Ile	Ile	Leu	Glu	Ile	Ile	Phe	Ser	Ser	Pro	Lys	His	Leu	Gly
	50					55					60				
Tyr	Val	Leu	Ser	Tyr	Ser	Ala	Pro	Leu	Ile	Phe	Thr	Gly	Leu	Ser	Ile
	65				70					75					80
Gly	Ile	Ser	Leu	Lys	Ala	Gly	Leu	Phe	Asn	Ile	Gly	Val	Glu	Gly	Gln
				85					90					95	
Phe	Ile	Leu	Gly	Ser	Ile	Val	Ala	Leu	Ile	Ala	Ser	Val	Leu	Leu	Asp
			100					105					110		
Leu	Pro	Pro	Ile	Leu	His	Val	Ile	Thr	Ile	Phe	Ile	Ile	Thr	Phe	Leu
		115					120						125		
Ala	Ser	Gly	Ser	Leu	Gly	Ile	Leu	Ile	Gly	Tyr	Leu	Lys	Ala	Lys	Phe
	130					135					140				
Asn	Ile	Ser	Glu	Val	Ile	Ser	Gly	Ile	Met	Phe	Asn	Trp	Ile	Leu	Phe
	145				150					155					160
His	Leu	Asn	Asn	Ile	Ile	Leu	Asp	Phe	Ser	Phe	Ile	Lys	Arg	Asp	Asn
				165					170					175	
Ser	Asp	Phe	Ser	Lys	Pro	Ile	Lys	Glu	Ser	Ala	Tyr	Ile	Asp	Phe	Leu
			180					185					190		
Ala	Ser	Trp	Lys	Leu	Ser	Pro	Glu	Gly	Leu	Ala	Tyr	Arg	Ser	Ser	His
		195					200					205			
Pro	Phe	Val	Asn	Glu	Leu	Leu	Lys	Ala	Pro	Leu	His	Phe	Gly	Ile	Ile
	210						215					220			
Leu	Gly	Ile	Ile	Phe	Ala	Ile	Leu	Ile	Trp	Phe	Leu	Leu	Asn	Lys	Thr
	225				230					235					240
Ile	Ile	Gly	Phe	Lys	Ile	Asn	Ala	Thr	Gly	Ser	Asn	Ile	Glu	Ala	Ser
				245					250					255	
Arg	Cys	Met	Gly	Ile	Asn	Val	Lys	Ala	Val	Leu	Ile	Phe	Ser	Met	Phe
			260					265					270		
Leu	Ser	Ala	Ala	Val	Ala	Gly	Leu	Ala	Gly	Ala	Ile	Gln	Leu	Met	Gly
		275					280					285			
Val	Asn	Lys	Ala	Ile	Phe	Lys	Leu	Ser	Tyr	Met	Gln	Gly	Ile	Gly	Phe
	290					295					300				
Asn	Gly	Ile	Ala	Ala	Ser	Leu	Met	Gly	Asn	Asn	Ser	Pro	Ile	Gly	Ile
	305				310					315					320
Ile	Phe	Ser	Ser	Ile	Leu	Phe	Ser	Ile	Leu	Leu	Tyr	Gly	Ser	Ser	Arg
				325					330					335	

Val Gln Ser Leu Met Gly Leu Pro Ser Ser Ile Val Ser Leu Met Met  
 340 345 350

Gly Ile Ile Val Leu Val Ile Ser Ala Ser Tyr Phe Leu Asn Lys Ile  
 355 360 365

Val Leu Lys Gly Val Lys Arg Val Lys Tyr Asn Asn Ile Leu Asp  
 370 375 380

<210> 249

<211> 348

<212> PRT

<213> Homo sapiens

<400> 249

Leu Val Val Met Gly Leu Gly His Ser Pro Phe Arg Met Tyr Phe Ile  
 1 5 10 15

Ile Leu Glu Ile Ile Phe Ser Ser Pro Lys His Leu Gly Tyr Val Leu  
 20 25 30

Ser Tyr Ser Ala Pro Leu Ile Phe Thr Gly Leu Ser Ile Gly Ile Ser  
 35 40 45

Leu Lys Ala Gly Leu Phe Asn Ile Gly Val Glu Gly Gln Phe Ile Leu  
 50 55 60

Gly Ser Ile Val Ala Leu Ile Ala Ser Val Leu Leu Asp Leu Pro Pro  
 65 70 75 80

Ile Leu His Val Ile Thr Ile Phe Ile Ile Thr Phe Leu Ala Ser Gly  
 85 90 95

Ser Leu Gly Ile Leu Ile Gly Tyr Leu Lys Ala Lys Phe Asn Ile Ser  
 100 105 110

Glu Val Ile Ser Gly Ile Met Phe Asn Trp Ile Leu Phe His Leu Asn  
 115 120 125

Asn Ile Ile Leu Asp Phe Ser Phe Ile Lys Arg Asp Asn Ser Asp Phe  
 130 135 140

Ser Lys Pro Ile Lys Glu Ser Ala Tyr Ile Asp Phe Leu Ala Ser Trp  
 145 150 155 160

Lys Leu Ser Pro Glu Gly Leu Ala Tyr Arg Ser Ser His Pro Phe Val  
 165 170 175

Asn Glu Leu Leu Lys Ala Pro Leu His Phe Gly Ile Ile Leu Gly Ile  
 180 185 190

Ile Phe Ala Ile Leu Ile Trp Phe Leu Leu Asn Lys Thr Ile Ile Gly  
 195 200 205

Phe Lys Ile Asn Ala Thr Gly Ser Asn Ile Glu Ala Ser Arg Cys Met  
 210 215 220

Gly Ile Asn Val Lys Ala Val Leu Ile Phe Ser Met Phe Leu Ser Ala  
225 230 235 240

Ala Val Ala Gly Leu Ala Gly Ala Ile Gln Leu Met Gly Val Asn Lys  
245 250 255

Ala Ile Phe Lys Leu Ser Tyr Met Gln Gly Ile Gly Phe Asn Gly Ile  
260 265 270

Ala Ala Ser Leu Met Gly Asn Asn Ser Pro Ile Gly Ile Ile Phe Ser  
275 280 285

Ser Ile Leu Phe Ser Ile Leu Leu Tyr Gly Ser Ser Arg Val Gln Ser  
290 295 300

Leu Met Gly Leu Pro Ser Ser Ile Val Ser Leu Met Met Gly Ile Ile  
305 310 315 320

Val Leu Val Ile Ser Ala Ser Tyr Phe Leu Asn Lys Ile Val Leu Lys  
325 330 335

Gly Val Lys Arg Val Lys Tyr Asn Asn Ile Leu Asp  
340 345

<210> 250

<211> 1152

<212> DNA

<213> Homo sapiens

<400> 250

```

atgacaatta gtaaaacgt atttagtaaa tttattttga aatttttaaa ttcttcagca 60
tttgtagtg tatttgctct atttggtgga tttttaattg ttgggctagt ggtgatggg 120
cttggtcatt ctcttttag aatgtatttt ataatattag aaattatttt ttcttctccc 180
aaacatttag gttatgtttt agttatttca gctcctttga tttttacagg tctttctatt 240
ggatatttctt taaaagcggg tctttttaat attggggttg aaggccaggt tatactagga 300
tctattgttg cttaatagc atcagtttta cttgatttgc ctccaatttt acatgtaatt 360
actattttta ttattacttt tttagcttca ggcagtttag gaattttaat cggatattta 420
aaagccaaat tcaatattag cgaagtgatt tcaggaataa tgtttaattg gatattattt 480
catttaata atataatttt agatttttagt tttattaaaa gagataatag tgatttttca 540
aaaccatta aagaaagcgc atatatgat ttttagctt cttggaagct ctccaccaga 600
ggctcttgctt atagatcttc tcatcctttt gttaatgagc ttttaaaagc acctcttcat 660
tttggaataa ttttaggtat aatttttgct attttaatat gggttttact taataaaact 720
attattggat ttaaaataaa tgccacagga agtaatattg aagcttcaag atgtatgggt 780
attaatgtaa aagctgtgct aattttttca atgtttctct cagcagctgt tgcaggctct 840
gctggtgcta ttcaacttat gggtgttaat aaagctatat ttaagctttc ttatatgcaa 900
ggaattgggt ttaatgggat agctgcttct cttatgggaa acaattcgcc aattggcata 960
atattttcta gcattctttt ttctatatgt ctttatggaa gcagtagagt tcaaagttta 1020
atgggccttc catcttcaat tgtatctttg atgatgggaa taattgttct tgtaatttct 1080
gctagctatt ttttaataaa aattgtttta aaagtggtta agcgtgtcaa atataataat 1140
attcttgatt ag 1152

```

<210> 251

<211> 1050

<212> DNA

<213> Homo sapiens

<400> 251

gggctagtgg tgatggggct tgggtcattct ccttttagaa tgtattttat aatattagaa 60



```

attatTTTTT cttctcccaa acatttaggt tatgttttaa gttattcagc tcctttgatt 120
tttacaggtc tttctattgg tatttcttta aaagcgggtc tttttaatat tgggggttgaa 180
ggccagttta tactaggatc tattgttgct ttaatagcat cagttttact tgatttgcct 240
ccaattttac atgtaattac tatttttatt attacttttt tagcttcagg cagtttagga 300
atTTtaatcg gatatttaaa agccaaattc aatattagcg aagtgatttc aggaataatg 360
tttaattgga tattatttca tttaaataat ataattttag atttttagttt tattaataaga 420
gataatagtg atttttcaaa acccattaaa gaaagcgcat atattgattt tttagcttct 480
tggaagctct caccagaagg tcttgcttat agatcttctc atccttttgt taatgagctt 540
ttaaagcac ctcttcattt tggaataatt ttaggtataa tttttgctat tttaatatgg 600
tttttactta ataaaactat tattggattt aaaataaatg ccacaggaag taatattgaa 660
gcttcaagat gtatgggtat taatgtaaaa gctgtgctaa ttttttcaat gtttctctca 720
gcagctgttg caggtcttgc tgggtgctatt caacttatgg gtgttaataa agctatattt 780
aagctttctt atatgcaagg aattgggttt aatgggatag ctgcttctct tatgggaaac 840
aattcgccaa ttggcataat attttctagc attctttttt ctatattgct ttatggaagc 900
agtagagttc aaagtTTaat gggccttcca tcttcaattg tatctttgat gatgggaata 960
attgttcttg taatttctgc tagctatttt ttaaataaaa ttgttttaaa aggtgttaag 1020
cgtgtcaaat ataataatat tcttgattag 1050

```

&lt;210&gt; 252

&lt;211&gt; 348

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 252

```

Met Val Lys Lys Phe Ser Ile Phe Leu Lys Ala Ile Ile Ile Phe Ser
  1             5             10             15

Ile Phe Glu Leu Leu Ile Glu Glu Leu Ser Ile Ile Leu Phe Leu Pro
      20             25             30

Tyr Lys Ile Arg Phe Ala Leu Ile Phe Leu Gly Phe Leu Phe Asp Thr
      35             40             45

Ile Phe Ile Phe Ile Phe Leu Tyr Lys Ile Thr Lys Ala Tyr Leu Ser
      50             55             60

Gln Arg Leu Glu Ile Tyr Val Arg Asn Asn Leu Phe Phe Asp Ile Ile
      65             70             75             80

His Cys Leu Ile Pro Leu Ala Phe Tyr Ser Ser Tyr Gln Leu Lys Asn
      85             90             95

Ile Ile Val Ala His Glu Thr Ile Leu Asn Pro Ile Met Leu Ser Leu
      100             105             110

Phe Lys Leu Arg Phe Leu Arg Leu Leu Arg Phe Asn Asp Leu Ile Ile
      115             120             125

Glu Ile Tyr Tyr Asn Ser Lys Glu Lys Asn Leu Ile Leu Ile Ala Phe
      130             135             140

Ala Arg Thr Phe Ser Met Ser Leu Leu Ile Pro Phe Thr Phe Phe Ile
      145             150             155             160

Ile Ile Ser Ser Ser Lys Ile Val Asn Ser Ile Pro Glu Lys Gln Glu
      165             170             175

Phe Asn Ile Ile Lys Asn Ile Ser Ile Ile Asn Glu Lys Ala Tyr Ile

```

180										185										190									
Lys	Glu	Lys	Tyr	Pro	Phe	Ile	Leu	Ile	Ile	Lys	Glu	Lys	Asp	Asp	Ile														
		195					200						205																
Ile	Tyr	Ser	Lys	Ser	Asp	Glu	Ile	Phe	Val	Tyr	Tyr	Ser	Pro	Ser	Glu														
	210					215					220																		
Tyr	Arg	Val	Ile	Glu	Met	Glu	Lys	Thr	Lys	Phe	Tyr	Ile	Asp	Lys	Tyr														
	225				230					235					240														
Leu	Gln	Arg	Lys	Ser	Asp	Ser	Ile	Leu	Gly	Ile	Phe	Leu	Phe	Thr	Leu														
			245					250						255															
Phe	Ala	Ser	Phe	Thr	Ile	Phe	Leu	Met	Asn	Phe	Tyr	Lys	Phe	Phe	Lys														
		260						265					270																
Ala	Ser	Phe	Leu	Asn	Pro	Ile	Ile	Leu	Met	Thr	Lys	Ile	Leu	Gln	Asp														
		275					280					285																	
Pro	Leu	Glu	Tyr	Arg	Lys	Ile	Gln	Ile	Pro	Phe	Thr	Leu	Ser	Glu	Glu														
	290					295					300																		
Lys	Val	Tyr	Glu	Leu	Ala	Lys	Ser	Phe	Asn	Asn	Leu	Leu	Leu	Lys	Glu														
	305				310					315					320														
Lys	Leu	Asn	Ser	Lys	Arg	Lys	Ser	Lys	Ile	Pro	Leu	Glu	Ile	Glu	Lys														
			325						330					335															
Val	Lys	Lys	Ile	Ile	Asn	Lys	Asn	Gln	Glu	Ile	Lys																		
			340					345																					
<210> 253																													
<211> 337																													
<212> PRT																													
<213> Homo sapiens																													
<400> 253																													
Ile	Ile	Ile	Phe	Ser	Ile	Phe	Glu	Leu	Leu	Ile	Glu	Glu	Leu	Ser	Ile														
1				5					10					15															
Ile	Leu	Phe	Leu	Pro	Tyr	Lys	Ile	Arg	Phe	Ala	Leu	Ile	Phe	Leu	Gly														
			20					25					30																
Phe	Leu	Phe	Asp	Thr	Ile	Phe	Ile	Phe	Ile	Phe	Leu	Tyr	Lys	Ile	Thr														
		35				40						45																	
Lys	Ala	Tyr	Leu	Ser	Gln	Arg	Leu	Glu	Ile	Tyr	Val	Arg	Asn	Asn	Leu														
	50					55					60																		
Phe	Phe	Asp	Ile	Ile	His	Cys	Leu	Ile	Pro	Leu	Ala	Phe	Tyr	Ser	Ser														
	65				70					75					80														
Tyr	Gln	Leu	Lys	Asn	Ile	Ile	Val	Ala	His	Glu	Thr	Ile	Leu	Asn	Pro														
				85					90					95															
Ile	Met	Leu	Ser	Leu	Phe	Lys	Leu	Arg	Phe	Leu	Arg	Leu	Leu	Arg	Phe														
			100					105						110															

Asn Asp Leu Ile Ile Glu Ile Tyr Tyr Asn Ser Lys Glu Lys Asn Leu  
 115 120 125  
 Ile Leu Ile Ala Phe Ala Arg Thr Phe Ser Met Ser Leu Leu Ile Pro  
 130 135 140  
 Phe Thr Phe Phe Ile Ile Ile Ser Ser Ser Lys Ile Val Asn Ser Ile  
 145 150 155 160  
 Pro Glu Lys Gln Glu Phe Asn Ile Ile Lys Asn Ile Ser Ile Ile Asn  
 165 170 175  
 Glu Lys Ala Tyr Ile Lys Glu Lys Tyr Pro Phe Ile Leu Ile Ile Lys  
 180 185 190  
 Glu Lys Asp Asp Ile Ile Tyr Ser Lys Ser Asp Glu Ile Phe Val Tyr  
 195 200 205  
 Tyr Ser Pro Ser Glu Tyr Arg Val Ile Glu Met Glu Lys Thr Lys Phe  
 210 215 220  
 Tyr Ile Asp Lys Tyr Leu Gln Arg Lys Ser Asp Ser Ile Leu Gly Ile  
 225 230 235 240  
 Phe Leu Phe Thr Leu Phe Ala Ser Phe Thr Ile Phe Leu Met Asn Phe  
 245 250 255  
 Tyr Lys Phe Phe Lys Ala Ser Phe Leu Asn Pro Ile Ile Leu Met Thr  
 260 265 270  
 Lys Ile Leu Gln Asp Pro Leu Glu Tyr Arg Lys Ile Gln Ile Pro Phe  
 275 280 285  
 Thr Leu Ser Glu Glu Lys Val Tyr Glu Leu Ala Lys Ser Phe Asn Asn  
 290 295 300  
 Leu Leu Leu Lys Glu Lys Leu Asn Ser Lys Arg Lys Ser Lys Ile Pro  
 305 310 315 320  
 Leu Glu Ile Glu Lys Val Lys Lys Ile Ile Asn Lys Asn Gln Glu Ile  
 325 330 335

Lys

<210> 254

<211> 1047

<212> DNA

<213> Homo sapiens

<400> 254

atggtaaaaa aatttttcaat tttcttataaa gcaataataa ttttttcaat atttgaactt 60  
 ttaatcgaag aactctcaat aattcttttt ttaccataca aaatacgatt tgcactaata 120  
 tttcttgggt ttctatttga cacaattttt attttcattt ttttatacaa aataaccaag 180  
 gcctaccttt cccaaagatt agaaatctac gtcagaaaca atctattctt cgatataatc 240  
 cactgcctta ttccttttagc gttttatagc tcatatcagc ttaaaaacat aattgtcgcc 300  
 catgaaacaa tattaatatcc aataatgcta tcacttttca agttaagatt ttttaagactt 360

```

cttaggttta atgacctaata aatagaaata tattacaatt caaaagaaaa gaacctaata 420
ctaataagcat ttgctaggac attttcaatg agcttatttaa taccattttac atttttttata 480
ataatatcaa gctcaaaaaat tgtaaaattca ataccagaaa aacaagaatt taatatcatt 540
aaaaatatat caataataaaa tgaaaaagct tacattaaag aaaaatatcc cttcatctta 600
ataatcaagg aaaaagatga cataatatac tcaaaatcag acgaaatatt tgtttactac 660
agtcacagtg aatatagagt aatagaaatg gagaaaaaca aatttttatat agataaatat 720
ttgcaaagaa aaagcgattc tattcttggg attttttctat ttacattgtt tgcattcatt 780
actatttttt taatgaattt ttataaaattt tttaaagcaa gctttttttaa tcctattatt 840
ttaatgacaa aaatttttaca agaccatta gaatatcgaa aaattcaaat tccttttact 900
ttaagcgaag aaaaagtata tgaaacttgca aaatcattta acaatctctt gctaaaagaa 960
aaactaaact caaagcgaag aagcaaaata ccttttagaaa ttgaaaaagt aaaaaaata 1020
attaataaaa accaggaaat aaaatga
1047

```

&lt;210&gt; 255

&lt;211&gt; 1014

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 255

```

ataataat tttcaatatt tgaacttttta atcgaagaac tctcaataat tcttttttta 60
ccatacaaaa tacgatttgc actaatat tttgggtttc tatttgacac aatttttatt 120
ttcatttttt tatacaaaaa aaccaaggcc tacctttccc aaagattaga aatctacgtc 180
agaaacaatc tattcttcga tataatccac tgccttattc ctttagcgtt ttatagctca 240
tattcagctta aaaacataat tgcgcgccat gaaacaatat taaatccaat aatgctatca 300
cttttcaagt taagattttt aagacttctt aggttttaatg acctaataat agaaatatat 360
tacaattcaa aagaaaagaa cctaataacta atagcatttg ctaggacatt ttcaatgagc 420
ttattaatac catttacatt ttttataata atatcaagct caaaaattgt aaattcaata 480
ccagaaaaac aagaatttaa tatcattaaa aatatatcaa taataaatga aaaagcttac 540
attaagaaaa aatatccctt catcttaata atcaaggaaa aagatgacat aatatactca 600
aaatcagacg aaatatttgt ttactacagt cccagtgaat atagagtaat agaaatggag 660
aaaacaaaaa tttatataga taaatatttg caaagaaaaa gcgattctat tcttgggaatt 720
tttctattta cattgtttgc atcatttact atttttttta tgaattttta taaatttttt 780
aaagcaagct ttttaaatcc tattatttta atgacaaaaa ttttacaaga cccattagaa 840
tatcgaaaaa ttcaaatcc ttttacttta agcgaagaaa aagtatatga acttgcaaaa 900
tcatttaaca atctcttgct aaaagaaaaa ctaaaactcaa agcgaaaaag caaaatacct 960
ttagaaattg aaaaagtaaa aaaaataatt aataaaaacc aggaaataaa atga 1014

```

&lt;210&gt; 256

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 256

```

Met Lys Ile Gln Ile Ile Ile Met Leu Leu Ala Leu Leu Asp Phe Pro
  1             5             10             15

```

```

Leu Asn Ala Arg Leu Leu Asp Ile Ser Ile Glu Lys Arg Ala Asp Glu
      20             25             30

```

```

Glu Ile Lys Lys Tyr Ser Ser Tyr Asn Leu Ile Leu Glu Lys Glu Tyr
      35             40             45

```

```

Tyr Thr Asn Phe Pro Thr Ser Glu Ile Glu Lys Asn Ile Tyr Lys Leu
      50             55             60

```

```

Thr Glu His Phe Val Lys Ser Ile Met Leu Asn Lys Thr Asn Tyr Ser
      65             70             75             80

```

Leu Leu Asn Ser Asn Tyr Lys Glu Ala Asn Lys Tyr Leu Ile Gln Ser  
                             85                            90                            95  
 Glu Leu Ile Asp Lys Lys Phe Leu Lys Tyr Lys Ile Phe Lys Ile Lys  
                             100                            105                            110  
 Asn Ile Asn Gly Ile Phe Lys Ser His Ser Leu Ile Tyr Thr Lys Lys  
                             115                            120                            125  
 Gly Phe Tyr Lys Leu Glu Leu Tyr Ile Glu Asn Asn Ala Glu Pro Leu  
                             130                            135                            140  
 Lys Ile Phe Asn Leu Asn Ile Thr Tyr Phe Leu Lys Asn Leu Asp Lys  
                             145                            150                            155                            160  
 Ile Ser Asn Glu Met Ile Phe Phe Pro Arg Glu Lys Arg Glu Val Asn  
                             165                            170                            175  
 Met Ile Gln Lys Thr Thr Ile Ala Ala Asp Ser Ser Ser Lys Pro Arg  
                             180                            185                            190  
 Gly Ile Asn Tyr Asp Thr Gly Ile Pro Phe Asn Val Leu Ile Val Asp  
                             195                            200                            205  
 Asp Ser Val Phe Thr Val Lys Gln Leu Thr Gln Ile Phe Thr Ser Glu  
                             210                            215                            220  
 Gly Phe Asn Ile Ile Asp Thr Ala Ala Asp Gly Glu Glu Ala Val Ile  
                             225                            230                            235                            240  
 Lys Tyr Lys Asn His Tyr Pro Asn Ile Asp Ile Val Thr Leu Asp Ile  
                             245                            250                            255  
 Thr Met Pro Lys Met Asp Gly Ile Thr Cys Leu Ser Asn Ile Met Glu  
                             260                            265                            270  
 Phe Asp Lys Asn Ala Arg Val Ile Met Ile Ser Ala Leu Gly Lys Glu  
                             275                            280                            285  
 Gln Leu Val Lys Asp Cys Leu Ile Lys Gly Ala Lys Thr Phe Ile Val  
                             290                            295                            300  
 Lys Pro Leu Asp Arg Ala Lys Val Leu Gln Arg Val Met Ser Val Phe  
                             305                            310                            315                            320  
 Val Lys

&lt;210&gt; 257

&lt;211&gt; 303

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 257

Arg Leu Leu Asp Ile Ser Ile Glu Lys Arg Ala Asp Glu Glu Ile Lys  
     1                            5                            10                            15

Lys Tyr Ser Ser Tyr Asn Leu Ile Leu Glu Lys Glu Tyr Tyr Thr Asn

20					25					30					
Phe	Pro	Thr	Ser	Glu	Ile	Glu	Lys	Asn	Ile	Tyr	Lys	Leu	Thr	Glu	His
	35						40					45			
Phe	Val	Lys	Ser	Ile	Met	Leu	Asn	Lys	Thr	Asn	Tyr	Ser	Leu	Leu	Asn
	50					55					60				
Ser	Asn	Tyr	Lys	Glu	Ala	Asn	Lys	Tyr	Leu	Ile	Gln	Ser	Glu	Leu	Ile
	65					70					75				80
Asp	Lys	Lys	Phe	Leu	Lys	Tyr	Lys	Ile	Phe	Lys	Ile	Lys	Asn	Ile	Asn
			85						90					95	
Gly	Ile	Phe	Lys	Ser	His	Ser	Leu	Ile	Tyr	Thr	Lys	Lys	Gly	Phe	Tyr
			100					105					110		
Lys	Leu	Glu	Leu	Tyr	Ile	Glu	Asn	Asn	Ala	Glu	Pro	Leu	Lys	Ile	Phe
		115					120					125			
Asn	Leu	Asn	Ile	Thr	Tyr	Phe	Leu	Lys	Asn	Leu	Asp	Lys	Ile	Ser	Asn
	130					135					140				
Glu	Met	Ile	Phe	Phe	Pro	Arg	Glu	Lys	Arg	Glu	Val	Asn	Met	Ile	Gln
	145					150					155				160
Lys	Thr	Thr	Ile	Ala	Ala	Asp	Ser	Ser	Ser	Lys	Pro	Arg	Gly	Ile	Asn
			165						170					175	
Tyr	Asp	Thr	Gly	Ile	Pro	Phe	Asn	Val	Leu	Ile	Val	Asp	Asp	Ser	Val
			180					185					190		
Phe	Thr	Val	Lys	Gln	Leu	Thr	Gln	Ile	Phe	Thr	Ser	Glu	Gly	Phe	Asn
		195					200					205			
Ile	Ile	Asp	Thr	Ala	Ala	Asp	Gly	Glu	Glu	Ala	Val	Ile	Lys	Tyr	Lys
	210					215					220				
Asn	His	Tyr	Pro	Asn	Ile	Asp	Ile	Val	Thr	Leu	Asp	Ile	Thr	Met	Pro
	225					230					235				240
Lys	Met	Asp	Gly	Ile	Thr	Cys	Leu	Ser	Asn	Ile	Met	Glu	Phe	Asp	Lys
			245						250					255	
Asn	Ala	Arg	Val	Ile	Met	Ile	Ser	Ala	Leu	Gly	Lys	Glu	Gln	Leu	Val
			260					265					270		
Lys	Asp	Cys	Leu	Ile	Lys	Gly	Ala	Lys	Thr	Phe	Ile	Val	Lys	Pro	Leu
		275					280					285			
Asp	Arg	Ala	Lys	Val	Leu	Gln	Arg	Val	Met	Ser	Val	Phe	Val	Lys	
		290				295						300			

&lt;210&gt; 258

&lt;211&gt; 516

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 258

```

atgaaaattc aaataattat aatgctgctt gcattgttag attttccact taatgccaga 60
cttttggaca tttcaattga aaaaagagca gatgaagaaa taaaaaata ttcgtcttat 120
aatttaattt tagaaaaaga atactatacc aattttccaa caagcgaaat agaaaaaaat 180
atttataaac taacagaaca ttttgtaaaa agcataatgc tcaataaaaac taactacagc 240
ttattaaatt caaactacaa agaagcaaat aaatatctaa ttcaaagcga actcattgat 300
aaaaaatttt taaaatataa aatattttaa atcaaaaata taaatggaat ttttaaaagc 360
cattcactaa tatatacaaa aaaaggattt tacaaattag aactttacat agaaaaataat 420
gcagaacctc taaaaatatt taaccttaac attacttatt ttttaaagaa tttagataaa 480
ataagtaatg aaatgatatt tttcccaagg gaatga 516

```

&lt;210&gt; 259

&lt;211&gt; 459

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 259

```

agacttttgg acatttcaat tgaaaaaaga gcagatgaag aaataaaaaa atattcgtct 60
tataatttaa ttttagaaaa agaatactat accaattttc caacaagcga aatagaaaaa 120
aatattttata aactaacaga acatttttga aaaagcataa tgctcaataa aactaactac 180
agcttatttaa attcaaacta caaagaagca aataaatatc taattcaaag cgaactcatt 240
gataaaaaat ttttaaaata taaaatattt aaaatcaaaa atataaatgg aatttttaa 300
agccattcac taatatatac aaaaaaagga ttttacaat tagaacttta catagaaaat 360
aatgcagaac ctctaaaaat atttaacctt aacattactt atttttttaa gaatttagat 420
aaaataagta atgaaatgat ttttttccca agggaatga 459

```

&lt;210&gt; 260

&lt;211&gt; 274

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 260

```

Met Leu Lys Thr Leu Thr Lys Ile Ile Thr Ile Ser Cys Leu Ile Val
 1             5             10             15
Gly Cys Ala Ser Leu Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr
          20             25             30
Leu Met Glu Leu Leu Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu
          35             40             45
Ile Lys Asn Arg Ser Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser
          50             55             60
Val Leu Gly Leu Ile Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn
          65             70             75             80
Asn Asp Phe Ala Leu Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe
          85             90             95
Trp Gly Ile His Lys Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe
          100            105            110
Thr Asn Pro Lys Trp Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro
          115            120            125
Asn Lys Ala Arg Thr Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala
          130            135            140

```

Lys Asp Asn Asn Met Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys  
145 150 155 160

Asn Glu Met Phe Phe Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn  
165 170 175

Gln Ile Val Ser Ser Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu  
180 185 190

Ser Ile Asn Ser Leu Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile  
195 200 205

Lys Thr Asn Asn Pro Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile  
210 215 220

Pro Thr Val Leu Thr Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile  
225 230 235 240

Lys Thr Thr Ile Lys Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile  
245 250 255

Gln Lys Ser Ser Val Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile  
260 265 270

Gln Thr

<210> 261

<211> 253

<212> PRT

<213> Homo sapiens

<400> 261

Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr Leu Met Glu Leu Leu  
1 5 10 15

Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu Ile Lys Asn Arg Ser  
20 25 30

Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser Val Leu Gly Leu Ile  
35 40 45

Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn Asn Asp Phe Ala Leu  
50 55 60

Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe Trp Gly Ile His Lys  
65 70 75 80

Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe Thr Asn Pro Lys Trp  
85 90 95

Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro Asn Lys Ala Arg Thr  
100 105 110

Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala Lys Asp Asn Asn Met  
115 120 125



Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys Asn Glu Met Phe Phe  
130 135 140

Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn Gln Ile Val Ser Ser  
145 150 155 160

Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu Ser Ile Asn Ser Leu  
165 170 175

Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile Lys Thr Asn Asn Pro  
180 185 190

Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile Pro Thr Val Leu Thr  
195 200 205

Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile Lys Thr Thr Ile Lys  
210 215 220

Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile Gln Lys Ser Ser Val  
225 230 235 240

Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile Gln Thr  
245 250

<210> 262

<211> 825

<212> DNA

<213> Homo sapiens

<400> 262

```
atgttaaaaa cattaacaaa aataattacc atttcatgcc tcatagtggg atgcgcaagc 60
ctgccttaca ctctccaaa acaaaatcta aattacttaa tggaactttt acctggcgca 120
aatttatacg cccatgtaaa tttaattaaa aacagggtcta tttataactc ttttagccct 180
aaatataaat cagttccttg gcttataaagc aattttatact ttagctataa aaaagaaaat 240
aacgattttg ctctactaat aatgggtaat ttcccaaaag atattttctg gggaattcat 300
aaaaatagaa atacagaatc aataggcaat atatttaca atccaaaatg gaaacttaaa 360
aattcaataa tatacattat tccaaacaaa gctagaacta gcattgcaat aacccaaaaa 420
gatataaccg caaaagacaa taatatgcta acaacaaaat atattgggga aatagaaaaa 480
aatgaaatgt ttttttgat tcaagatcca acattattgc tcccaaacca aatagtaagc 540
agcaaaaatt taattccctt tagcagtggg actttgtcta taaacagctt aaatcaagaa 600
gaatatattt ttaaatcctt aatcaaaaaca aataatccac caatactaaa aatattgtca 660
aaaaagttaa ttccaaccgt cttgacaaac atgacaaacc tcacaatatc aagccacata 720
aagaccacaa taaaagacca aaatacggtt gaaatagaat ttaatatcca aaaatctagt 780
gttgaaagcc ttatagaaaa actagcttca aatattcaaa cctaa 825
```

<210> 263

<211> 762

<212> DNA

<213> Homo sapiens

<400> 263

```
ccttacactc ctccaaaaca aaatctaaat tacttaatgg aacttttacc tggcgcaaat 60
ttatagcccc atgtaaaatt aattaaaaac aggtctattt ataactcttt aagccctaaa 120
tataaatcag ttcttgggct tataagcaat ttatacttta gctataaaaa agaaaataac 180
gattttgctc tactaataat gggtaatttc ccaaaagata ttttctgggg aattcataaa 240
aatagaaata cagaatcaat aggcaatata ttacaaaatc caaaatggaa acttaaaaaa 300
tcaaatatat acattattcc aaacaaagct agaactagca ttgcaataac caaaaaagat 360
ataaccgcaa aagacaataa tatgctaaca acaaaatata ttggggaaat agaaaaaaat 420
```

gaaatgtttt ttggattca agatccaaca ttattgctcc caaaccaaat agtaagcagc 480  
 aaaaatttaa ttcccttttag cagtggaaact ttgtctataa acagcttaaa tcaagaagaa 540  
 tatattttta aatccttaat caaaacaaat aatccaccaa tactaaaaat attgtcaaaa 600  
 aagttaattc caaccgtctt gacaaacatg acaaacctca caatatcaag ccacataaag 660  
 accacaataa aagacaaaaa tacgggtgaa atagaattta atattcaaaa atctagtgtt 720  
 gaaagcctta tagaaaaact agcttcaaat attcaaacct aa 762

<210> 264

<211> 136

<212> PRT

<213> Homo sapiens

<400> 264

Met Gly Ile Thr Val Phe Tyr Leu Phe Ser Ile Phe Ala Ser Phe Val  
 1 5 10 15

Leu Gly Ser Ser Met Asp Ser Val Lys Glu Asn Val Leu Lys Ser Thr  
 20 25 30

Ile Phe Tyr Tyr Asp Val Glu Glu Val Glu Phe Pro Tyr Ala Arg Lys  
 35 40 45

Gln Thr Leu Gln Phe Ile Ala Lys Thr His Leu Lys Tyr Ala Val Phe  
 50 55 60

Asn Phe Asp Lys Asn Lys Met Phe Ser Tyr Thr Phe Val Phe Asp Lys  
 65 70 75 80

Lys Leu Ile Ser Gln Tyr Ala Ile Phe Ile Glu Val Lys Lys Lys Phe  
 85 90 95

Gly Glu Ala Thr Leu Val Thr Pro Leu Asn Tyr Leu Trp Asp Leu Gly  
 100 105 110

Asp Ser Ile Ile Val Leu Asn Lys Asn Ile Leu Arg Ile Thr Leu Lys  
 115 120 125

Ser Tyr Ile Ser Asn Tyr Asn Lys  
 130 135

<210> 265

<211> 117

<212> PRT

<213> Homo sapiens

<400> 265

Ser Met Asp Ser Val Lys Glu Asn Val Leu Lys Ser Thr Ile Phe Tyr  
 1 5 10 15

Tyr Asp Val Glu Glu Val Glu Phe Pro Tyr Ala Arg Lys Gln Thr Leu  
 20 25 30

Gln Phe Ile Ala Lys Thr His Leu Lys Tyr Ala Val Phe Asn Phe Asp  
 35 40 45

Lys Asn Lys Met Phe Ser Tyr Thr Phe Val Phe Asp Lys Lys Leu Ile  
 50 55 60

Ser Gln Tyr Ala Ile Phe Ile Glu Val Lys Lys Lys Phe Gly Glu Ala  
65 70 75 80

Thr Leu Val Thr Pro Leu Asn Tyr Leu Trp Asp Leu Gly Asp Ser Ile  
85 90 95

Ile Val Leu Asn Lys Asn Ile Leu Arg Ile Thr Leu Lys Ser Tyr Ile  
100 105 110

Ser Asn Tyr Asn Lys  
115

<210> 266

<211> 411

<212> DNA

<213> Homo sapiens

<400> 266

atgggtatta cagtttttta tttattttct atttttgcat cttttgttct gggttctagc 60  
atggattctg ttaaagagaa tggtctcaag agcactattt tttattatga tggtgaagaa 120  
gttgaatttc cttatgctag gaagcagact ttacaattta ttgctaaaac ccatTTaaaa 180  
tatgctgttt ttaattttga caaaaataaa atgttttcgt acacttttgt ttttgataaa 240  
aaattaatat ctcagtatgc aatttttatt gaggtaaaga aaaagtttgg cgaggctaca 300  
ctagtaacgc ctttgaatta tttatgggat cttggtgatt ctattattgt tttaaataaa 360  
aatattttta gaattacttt aaaatcttat atttcaaatt ataataaatg a 411

<210> 267

<211> 354

<212> DNA

<213> Homo sapiens

<400> 267

agcatggatt ctgttaaaga gaatgttctc aagagcacta ttttttatta tgatgttgaa 60  
gaagttgaat ttccttatgc taggaagcag actttacaat ttattgctaa aaccatttta 120  
aaatatgctg tttttaattt tgacaaaaat aaaatgtttt cgtacacttt tgtttttgat 180  
aaaaaattaa tatctcagta tgcaattttt attgaggtaa agaaaaagtt tggcgaggct 240  
acactagtaa cgcctttgaa ttatttatgg gatcttggtg attctattat tgttttaaat 300  
aaaaatattt taagaattac tttaaaatct tatatttcaa attataataa atga 354

<210> 268

<211> 449

<212> PRT

<213> Homo sapiens

<400> 268

Met Tyr Met Glu Asn Ile Glu Val Arg Gly Gln Pro Asn Phe Phe Gly  
1 5 10 15

Leu Ile Pro Phe Phe Val Phe Ile Ile Ile Tyr Leu Gly Thr Gly Ile  
20 25 30

Tyr Leu Gly Val Ile Gly Val Glu Met Ala Phe Tyr Gln Leu Pro Ala  
35 40 45

Ser Val Ala Met Phe Phe Ala Ser Ile Val Cys Phe Leu Val Phe Lys  
50 55 60

Gly Lys Phe Ser Asp Lys Ile His Ile Phe Ile Lys Gly Ala Ala Gln

65		70		75		80
Tyr Asp Ile Ile	Leu Met Cys Leu Ile	Phe Met Leu Ser Gly Ala Phe				
	85	90			95	
Ser Ser Leu Cys Lys Glu Ile Gly Cys Val Glu Thr Val Ala Asn Leu						
	100	105			110	
Gly Ile Lys Tyr Ile Asn Pro Asn Trp Ile Val Ser Gly Ile Phe Phe						
	115	120			125	
Val Thr Cys Phe Leu Ser Phe Ser Ala Gly Thr Ser Val Gly Ser Ile						
	130	135			140	
Val Ala Ile Ala Pro Ile Ala Phe Asn Ile Ala Val Lys Ser Gly Ile						
	145	150			155	160
Asn Pro Asn Leu Ile Ala Ala Ser Val Met Cys Gly Ala Met Phe Gly						
	165	170				175
Asp Asn Leu Ser Leu Ile Ser Asp Thr Thr Ile Val Ser Ser Arg Thr						
	180	185			190	
Gln Gly Ser Ser Ile Leu Asp Val Phe Ile Ser Ser Ser Phe Tyr Ala						
	195	200			205	
Phe Pro Ser Ala Ile Leu Thr Phe Phe Ser Phe Phe Phe Leu Ser Glu						
	210	215			220	
Asn Leu Ser Asn Ala Thr Asn Phe Leu His Glu Ser Ser Ile Asp Leu						
	225	230			235	240
Val Lys Thr Val Pro Tyr Leu Met Ile Ile Phe Phe Ser Leu Ala Gly						
	245	250				255
Met Asn Val Phe Ile Val Leu Phe Leu Gly Ile Leu Ser Ile Cys Leu						
	260	265				270
Ile Ser Val Leu Tyr Gly Asn Leu Tyr Phe Leu Asp Val Met Lys Asn						
	275	280			285	
Ile Asn Lys Gly Phe Leu Asn Met Ala Asp Leu Ile Phe Leu Ser Ile						
	290	295			300	
Leu Thr Gly Gly Val Ser Phe Ala Val Ile His Asn Gly Gly Phe Lys						
	305	310			315	320
Trp Leu Leu Ile Lys Leu Lys Ser Leu Ile Arg Gly Lys Ser Ser Ala						
	325	330				335
Glu Phe Ser Ile Gly Ala Phe Val Ser Ile Val Asp Val Phe Leu Ala						
	340	345				350
Asn Asn Thr Ile Ala Ile Leu Ile Cys Gly Lys Val Ala Lys Lys Ile						
	355	360			365	
Ala Phe Glu Asn Asn Ile Ser Val Gln Arg Ser Ala Ser Ile Leu Asp						
	370	375			380	

Met Phe Ser Cys Ile Phe Gln Gly Ile Ile Pro Tyr Gly Ala Gln Met  
 385 390 395 400

Ile Ile Leu Val Asn Phe Ser Asn Gly Leu Val Ser Pro Ile Ser Ile  
 405 410 415

Leu Pro Phe Leu Val Tyr Phe Gly Phe Leu Leu Phe Phe Val Ile Leu  
 420 425 430

Ser Ile Leu Gly Leu Asp Ile Lys Lys Val Phe Leu Phe Phe Leu Lys  
 435 440 445

Lys

<210> 269

<211> 389

<212> PRT

<213> Homo sapiens

<400> 269

Leu Val Phe Lys Gly Lys Phe Ser Asp Lys Ile His Ile Phe Ile Lys  
 1 5 10 15

Gly Ala Ala Gln Tyr Asp Ile Ile Leu Met Cys Leu Ile Phe Met Leu  
 20 25 30

Ser Gly Ala Phe Ser Ser Leu Cys Lys Glu Ile Gly Cys Val Glu Thr  
 35 40 45

Val Ala Asn Leu Gly Ile Lys Tyr Ile Asn Pro Asn Trp Ile Val Ser  
 50 55 60

Gly Ile Phe Phe Val Thr Cys Phe Leu Ser Phe Ser Ala Gly Thr Ser  
 65 70 75 80

Val Gly Ser Ile Val Ala Ile Ala Pro Ile Ala Phe Asn Ile Ala Val  
 85 90 95

Lys Ser Gly Ile Asn Pro Asn Leu Ile Ala Ala Ser Val Met Cys Gly  
 100 105 110

Ala Met Phe Gly Asp Asn Leu Ser Leu Ile Ser Asp Thr Thr Ile Val  
 115 120 125

Ser Ser Arg Thr Gln Gly Ser Ser Ile Leu Asp Val Phe Ile Ser Ser  
 130 135 140

Ser Phe Tyr Ala Phe Pro Ser Ala Ile Leu Thr Phe Phe Ser Phe Phe  
 145 150 155 160

Phe Leu Ser Glu Asn Leu Ser Asn Ala Thr Asn Phe Leu His Glu Ser  
 165 170 175

Ser Ile Asp Leu Val Lys Thr Val Pro Tyr Leu Met Ile Ile Phe Phe  
 180 185 190

Ser Leu Ala Gly Met Asn Val Phe Ile Val Leu Phe Leu Gly Ile Leu  
195 200 205

Ser Ile Cys Leu Ile Ser Val Leu Tyr Gly Asn Leu Tyr Phe Leu Asp  
210 215 220

Val Met Lys Asn Ile Asn Lys Gly Phe Leu Asn Met Ala Asp Leu Ile  
225 230 235 240

Phe Leu Ser Ile Leu Thr Gly Gly Val Ser Phe Ala Val Ile His Asn  
245 250 255

Gly Gly Phe Lys Trp Leu Leu Ile Lys Leu Lys Ser Leu Ile Arg Gly  
260 265 270

Lys Ser Ser Ala Glu Phe Ser Ile Gly Ala Phe Val Ser Ile Val Asp  
275 280 285

Val Phe Leu Ala Asn Asn Thr Ile Ala Ile Leu Ile Cys Gly Lys Val  
290 295 300

Ala Lys Lys Ile Ala Phe Glu Asn Asn Ile Ser Val Gln Arg Ser Ala  
305 310 315 320

Ser Ile Leu Asp Met Phe Ser Cys Ile Phe Gln Gly Ile Ile Pro Tyr  
325 330 335

Gly Ala Gln Met Ile Ile Leu Val Asn Phe Ser Asn Gly Leu Val Ser  
340 345 350

Pro Ile Ser Ile Leu Pro Phe Leu Val Tyr Phe Gly Phe Leu Leu Phe  
355 360 365

Phe Val Ile Leu Ser Ile Leu Gly Leu Asp Ile Lys Lys Val Phe Leu  
370 375 380

Phe Phe Leu Lys Lys  
385

<210> 270

<211> 1350

<212> DNA

<213> Homo sapiens

<400> 270

atgtatatgg aaaatattga agtaagaggg cagccaaatt tttttgggct ttttcctttt 60  
tttgttttta ttattatcta tttaggcacg gggattttatt tgggagttat tgggtgtagaa 120  
atggcctttt atcaactgcc ggctagtgtt gcaatgtttt ttgcttccat tgtttgtttt 180  
ttggtattta aaggaaaatt ttccgacaaa attcacatat ttattaaagg agcagctcag 240  
tacgatatta tactaatgtg tcttattttt atgcttttcg gagctttctc ttctctttgt 300  
aaagaaatag gctgcgttga aactgtagca aatttgggaa ttaaataat taatcctaata 360  
tggattgttt ctggtatatt ttttgtaacc tgcttctatt ctttttctgc cggcacttct 420  
gttgatcta tcgttgcaat tgctcctatt gcttttaata ttgctgttaa aagcggcatt 480  
aatccgaatt taatagcagc atctgtaatg tgtggagcta tgtttggaga taatctttct 540  
ttaatatcag atacaactat tgtttctagt cgaactcaag gtagtagcat cttagatgtt 600  
tttattagta gcagttttta tgctttttcca tccgccatac taactttttt ttcttttttc 660  
tttctttctg aaaatttgtc caatgccaca aactttttac acgaaagtgc aatagattta 720  
gtgaaaactg tgccttattt aatgattata tttttctctt tagctggaat gaatgttttt 780

```

atagttcttt ttttaggtat tctttctata tgtcttatta gcgttttgta tggtaattta 840
tactttctag atgtaatgaa aaacattaat aaagggtttt taaatatggc ggatttgatt 900
tttctttcaa ttttaacagg gggagtttct tttgccgtga ttcataatgg aggcctttaa 960
tggctactta ttaaattaaa atccttgatt agaggaaaaa gttcagcggg attttctatt 1020
ggggcctttg tttcaatagt tgatgttttt cttgctaata acacaattgc catacttatt 1080
tgcggcaaaag tagcaaaaaa gatagctttt gaaaataaca tcagtgttca aagaagtgtc 1140
tctatttttag atatgttctc ttgtattttt caaggcatta ttccttatgg tgcgcaaatg 1200
attatttttag tgaatttttc aaatggactt gtgtcgccaa ttagtatttt gccattttta 1260
gtttattttg gatttttatt gttttttgtt attttatcta ttttgggcct tgatataaaa 1320
aaagtttttt tatttttttt aaaaaataa 1350

```

&lt;210&gt; 271

&lt;211&gt; 1170

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 271

```

ttggatattta aaggaaaatt ttccgacaaa attcacatat ttattaaagg agcagctcag 60
tacgatatta tactaatgtg tcttattttt atgctttcgg gagctttctc ttctctttgt 120
aaagaaatag gctgcgttga aactgtagca aatttgggaa ttaaatatat taatcctaatt 180
tggattgttt ctggtatatt ttttgtaacc tgctttcttt ctttttctgc cggcacttct 240
gttggatcta tcgttgcaat tgctcctatt gcttttaata ttgctgttaa aagcggcatt 300
aatccgaatt taatagcagc atctgtaatg tgtggagcta tgtttggaga taatctttct 360
ttaatatcag atacaactat tgtttctagt cgaactcaag gtagtagcat ctagatgtt 420
tttattagta gcagttttta tgcttttcca tccgccatac taactttttt ttcttttttc 480
tttctttctg aaaattttgtc caatgccaca aactttttac acgaaagtgc aatagattta 540
gtgaaaactg tgccttattt aatgattata tttttctctt tagctggaat gaatgttttt 600
atagttcttt ttttaggtat tctttctata tgtcttatta gcgttttgta tggtaattta 660
tactttctag atgtaatgaa aaacattaat aaagggtttt taaatatggc ggatttgatt 720
tttctttcaa ttttaacagg gggagtttct tttgccgtga ttcataatgg aggcctttaa 780
tggctactta ttaaattaaa atccttgatt agaggaaaaa gttcagcggg attttctatt 840
ggggcctttg tttcaatagt tgatgttttt cttgctaata acacaattgc catacttatt 900
tgcggcaaaag tagcaaaaaa gatagctttt gaaaataaca tcagtgttca aagaagtgtc 960
tctatttttag atatgttctc ttgtattttt caaggcatta ttccttatgg tgcgcaaatg 1020
attatttttag tgaatttttc aaatggactt gtgtcgccaa ttagtatttt gccattttta 1080
gtttattttg gatttttatt gttttttgtt attttatcta ttttgggcct tgatataaaa 1140
aaagtttttt tatttttttt aaaaaataa 1170

```

&lt;210&gt; 272

&lt;211&gt; 241

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 272

```

Met Arg Lys Cys Phe Val Ser Leu Ser Leu Leu Ile Phe Phe Ala
 1             5             10            15

Cys Ser Ser Asn Val Glu Ile Glu Leu Asn Asp Asp Ile Ser Gly Ile
      20             25             30

Val Ser Ile Phe Val Asn Val Asn Arg Glu Phe Glu Lys Ile Arg Lys
    35             40             45

Glu Leu Leu Thr Thr Leu Val Gly Glu Glu Ile Ala Asn Met Pro Leu
 50             55             60

Phe Pro Val Asp Glu Ile Lys Lys Tyr Phe Lys Asn Gly Glu Glu Lys
 65             70             75            80

```

```
<210> 273
<211> 223
<212> PRT
<213> Homo sapiens
```

```
<400> 273  
Ser Asn Val Glu Ile Glu Leu Asn Asp Asp Ile Ser Gly Ile Val Ser  
   1                               10                      15  
  
Ile Phe Val Asn Val Asn Arg Glu Phe Glu Lys Ile Arg Lys Glu Leu  
                20                        25              30  
  
Leu Thr Thr Leu Val Gly Glu Glu Ile Ala Asn Met Pro Leu Phe Pro  
      35                                40                    45  
  
Val Asp Glu Ile Lys Lys Tyr Phe Lys Asn Gly Glu Glu Lys Leu Gly  
    50                              55              60  
  
Leu Lys Leu Leu Ser Ile Lys Thr Gln Gly Asp Ser Ile Asn Leu Val  
   65                          70                  75          80  
  
Val Lys Phe Asp Asn Leu Ile Lys Ile Leu Gly Asp Tyr Met Lys Lys  
                85                            90                      95
```



Pro Asp Ile Ser Val Phe Lys Ile Glu Lys Lys Asp Gly Lys Asn Ile  
 100 105 110

Ile Glu Leu Asn Ile Asn Leu Glu Asn Ala Thr Lys Asn Ile Asn Glu  
 115 120 125

Asn Lys Glu Tyr Ile Ser Asp Ala Leu Ala Ala Leu Leu Pro Ser Asp  
 130 135 140

Glu Ile Pro Met Ser Ala Lys Glu Tyr Lys Asp Val Leu Val Tyr Phe  
 145 150 155 160

Leu Ser Asp Phe Thr Ser Lys Ala Ser Glu Leu Ile Asp Asn Ser Lys  
 165 170 175

Leu Asn Leu Val Val Lys Thr Ser Arg Asn Val Gln Glu Gln Phe Gly  
 180 185 190

Phe Lys Gln Ile Asn Ser Asn Thr Leu Arg Phe Glu Met Asp Met Val  
 195 200 205

Lys Gly Leu Ser Leu Glu Thr Pro Ile Lys Leu Arg Leu Val Tyr  
 210 215 220

<210> 274

<211> 726

<212> DNA

<213> Homo sapiens

<400> 274

```

atgagaaagt gttttgtag cttgagttta ttgttgattt tttttgcttg tagctctaata 60
gttgaaattg agttaaata tgatattagt ggtattgttt caatatttgt taatgttaata 120
agagaatttg aaaaaattag aaaagaactc ttaacaactt tgggtgggaga agaaattgca 180
aatatgcctc tttttcctgt agatgaaata aaaaaatact ttaaaaaatgg agaggaaaag 240
cttgggctta agcttttgag tattaaaacc caaggagatt ctattaattt agttgttaag 300
tttgataatt taattaaaat tttaggcgat tatatgaaaa aaccgcgat atctgtgttt 360
aagatagaaa aaaaagatgg taaaaatatt attgaactta atattaattt ggaaaacgct 420
actaagaata ttaatgaaaa taagaatat attagtgatg cacttgctgc tcttttgcca 480
tcggatgaga tcccaatgtc tgccaaagaa tataaagatg ttttggttta ttttttatcg 540
gattttactt ccaaagcaag tgaacttatt gacaattcca aacttaattc tgtagttaag 600
acttctagaa atgttcaaga acaatttgga ttcaaacaaa ttaactcaaa cacactgcgg 660
tttgagatgg atatgggtaa aggattaagt cttgaaacac caataaaact tagattagtt 720
tattga 726

```

<210> 275

<211> 672

<212> DNA

<213> Homo sapiens

<400> 275

```

tctaagtgtt aaattgagtt aaatgatgat attagtggta ttgtttcaat atttgtaata 60
gttaatatag aattgaaaa aattagaaaa gaactcttaa caactttggt gggagaagaa 120
attgcaaata tgctctttt tcctgtagat gaaataaaaa aatactttaa aaatggagag 180
gaaaagcttg ggcttaagct tttgagtatt aaaacccaag gagattctat taatttagtt 240
gttaagtgtt ataatttaata taaaatttta ggcgattata tgaaaaaacc cgatataatc 300
gtgtttaaga tagaaaaaaa agatggtaaa aatattattg aacttaatat taatttggaa 360
aacgctacta agaataatata tgaaaataaa gaatatatta gtgatgcact tgctgtcttt 420
ttgccatcgg atgagatccc aatgtctgccc aaagaatata aagatgtttt ggtttatttt 480

```

ttatcggtt ttacttccaa agcaagtga cttattgaca attccaaact taatcttgta 540  
 gttaagactt ctagaatgt tcaagaacaa tttggattca aacaaattaa ctcaaacaca 600  
 ctgcggtttg agatggatat ggtaaagga ttaagtcttg aaacaccaat aaaacttaga 660  
 ttagtttatt ga 672

<210> 276

<211> 320

<212> PRT

<213> Homo sapiens

<400> 276

Met Asn Ile Arg Lys Leu Leu Phe Cys Ile Phe Phe Met Asn Ile Ser  
 1 5 10 15

Phe Leu Leu Phe Ala Gly Asp Tyr Lys Gly Leu Asp Phe Lys Ile Lys  
 20 25 30

Phe Phe Asn Gln Ser Ile Tyr Arg Val Asn Ser Asn Val Phe Ile Glu  
 35 40 45

Val Ser Leu Ser Asn Ala Ser Glu Ser Val Leu Thr Leu Glu Ile Gly  
 50 55 60

Asp Ile Asn Ser Phe Gly Phe Asp Phe Asp Val Thr Asp Thr Thr Asn  
 65 70 75 80

Ile Lys Val Lys Arg Pro Ile Glu Tyr Val Lys Lys Arg Ser Lys Asn  
 85 90 95

Val Ala Ile Pro Val Arg Asn Met Ser Leu Arg Pro Asn Glu Lys Phe  
 100 105 110

Ser Val Val Ile Asn Leu Asn Gln Phe Val Lys Phe Ser Lys Asp Gly  
 115 120 125

Val Tyr Phe Val Lys Gly Ile Phe Phe Pro Asp Ile Ser Asp Pro Ser  
 130 135 140

Lys Lys Lys Glu Ser Asn Ile Ile Thr Leu Phe Leu Asn Asp Gly Phe  
 145 150 155 160

Asp Glu Asn Pro Gly Ser Ile Asp Leu Val Asn Leu Ser Glu Asn Asn  
 165 170 175

Asp Ile Gln Asp Ile Leu Lys Lys Lys Lys Leu Ser Pro Asp Glu Ile  
 180 185 190

Val Lys Tyr Leu Leu Lys Ala Leu Gln Leu Gly Lys Lys Glu Lys Phe  
 195 200 205

Phe Leu Tyr Leu Asp Ile Glu Gly Leu Leu Leu Asn Asp Lys Gly Lys  
 210 215 220

Ala Tyr Leu Tyr Lys Gln Lys Leu Ser Pro Ile Pro Asn Lys Asn Val  
 225 230 235 240

Val Glu Glu Tyr Lys Glu Tyr Leu Trp Asn Ser Asn Asn Ser Asp Ile  
 245 250 255

Ser Lys Ala Pro Asn Lys Phe Ser Ile Ile Glu Thr Thr Tyr Ser Asp  
                   260                  265                  270  
 Thr Ser Gly Lys Val Ile Ala Asp Leu Tyr Phe Asp Asp Gly Gln Phe  
                   275                  280                  285  
 Tyr Ile Ser Lys Arg Tyr Thr Phe Phe Phe Lys Lys Tyr Asp Tyr Tyr  
                   290                  295                  300  
 Trp Ile Ile Tyr Asp Tyr Ile Val Gln Asn Thr Gly Ile Lys Glu Lys  
                   305                  310                  315                  320

<210> 277  
 <211> 299  
 <212> PRT  
 <213> Homo sapiens

<400> 277  
 Gly Asp Tyr Lys Gly Leu Asp Phe Lys Ile Lys Phe Phe Asn Gln Ser  
   1                  5                  10                  15  
 Ile Tyr Arg Val Asn Ser Asn Val Phe Ile Glu Val Ser Leu Ser Asn  
                   20                  25                  30  
 Ala Ser Glu Ser Val Leu Thr Leu Glu Ile Gly Asp Ile Asn Ser Phe  
                   35                  40                  45  
 Gly Phe Asp Phe Asp Val Thr Asp Thr Thr Asn Ile Lys Val Lys Arg  
                   50                  55                  60  
 Pro Ile Glu Tyr Val Lys Lys Arg Ser Lys Asn Val Ala Ile Pro Val  
                   65                  70                  75                  80  
 Arg Asn Met Ser Leu Arg Pro Asn Glu Lys Phe Ser Val Val Ile Asn  
                   85                  90                  95  
 Leu Asn Gln Phe Val Lys Phe Ser Lys Asp Gly Val Tyr Phe Val Lys  
                   100                  105                  110  
 Gly Ile Phe Phe Pro Asp Ile Ser Asp Pro Ser Lys Lys Lys Glu Ser  
                   115                  120                  125  
 Asn Ile Ile Thr Leu Phe Leu Asn Asp Gly Phe Asp Glu Asn Pro Gly  
                   130                  135                  140  
 Ser Ile Asp Leu Val Asn Leu Ser Glu Asn Asn Asp Ile Gln Asp Ile  
                   145                  150                  155                  160  
 Leu Lys Lys Lys Lys Leu Ser Pro Asp Glu Ile Val Lys Tyr Leu Leu  
                   165                  170                  175  
 Lys Ala Leu Gln Leu Gly Lys Lys Glu Lys Phe Phe Leu Tyr Leu Asp  
                   180                  185                  190

Ile Glu Gly Leu Leu Leu Asn Asp Lys Gly Lys Ala Tyr Leu Tyr Lys  
195 200 205

Gln Lys Leu Ser Pro Ile Pro Asn Lys Asn Val Val Glu Glu Tyr Lys  
210 215 220

Glu Tyr Leu Trp Asn Ser Asn Asn Ser Asp Ile Ser Lys Ala Pro Asn  
225 230 235 240

Lys Phe Ser Ile Ile Glu Thr Thr Tyr Ser Asp Thr Ser Gly Lys Val  
245 250 255

Ile Ala Asp Leu Tyr Phe Asp Asp Gly Gln Phe Tyr Ile Ser Lys Arg  
260 265 270

Tyr Thr Phe Phe Phe Lys Lys Tyr Asp Tyr Tyr Trp Ile Ile Tyr Asp  
275 280 285

Tyr Ile Val Gln Asn Thr Gly Ile Lys Glu Lys  
290 295

<210> 278

<211> 963

<212> DNA

<213> Homo sapiens

<400> 278

```
atgaatatta gaaaattgct tttttgtatc ttttttatga atatttcctt tcttttgtt 60
gcgggagatt acaagggcct tgattttaaa atcaagtttt ttaatcaatc tatttatcgt 120
gtcaatagta atgtttttat tgaagtttct cttagtaatg cgtctgagag tgttttaact 180
ttagaaatag gcgatattaa ttcttttggc ttgtatttg atgttactga taccaccaat 240
attaaagtta aaagacctat tgaatatgtt aaaaagagat ctaaaaatgt tgcaattcct 300
gttagaaata tgagcttgag acctaatgaa aaattttctg tagttattaa cttaaataca 360
tttgtaagt ttagtaaaaga tggagtttat ttgttaagg gtattttttt cccagacatt 420
tcagatccat ctaagaaaaa agaatccaat attattacgc ttttttgaa tgatggtttt 480
gatgaaaatc caggtagcat agacctgtt aatttgtctg aaaataatga tattcaagat 540
atcttgaaaa agaaaaaatt atctcccgat gaaattgtta aatattgtt aaaggcattg 600
cagcttggga aaaaagaaaa gttcttttta tatcttgata ttgaagggtt gttattaaat 660
gacaagggca aggcatacct ttataagcaa aagttatcac ctattcccaa taaaaatgta 720
gttgaagagt ataaagaata ttgttggaat tctaataatt cggatatttc aaaagcacca 780
aataaatttt ctattattga aactacttat tctgataact ctggcaaggt gattgctgat 840
ttatattttg acgatgggca attttatatt tccaaaagat atactttctt ctttaaaaaa 900
tatgattatt attggataat ttatgattac attgttcaaa atactggcat taaggaaaag 960
taa
```

<210> 279

<211> 900

<212> DNA

<213> Homo sapiens

<400> 279

```
ggagattaca agggccttga ttttaaaatc aagtttttta atcaatctat ttatcgtgtc 60
aatagtaatg tttttattga agtttctctt agtaatgcgt ctgagagtgt tttaacttta 120
gaaataggcg atattaattc ttttggcttt gattttgatg ttactgatac caccaatatt 180
aaagttaaaa gacctattga atatgttaaa aagagatcta aaaatgttgc aattcctgtt 240
agaaatatga gcttgagacc taatgaaaaa ttttctgtag ttattaactt aaatcaattt 300
gttaagttta gtaaagatgg agtttatatt gttaagggtta tttttttccc agacatttca 360
gatccatcta agaaaaaaga atccaatatt attacgcttt ttttgaatga tggttttgat 420
```

gaaaatccag gtagcataga ccttggttaat ttgtctgaaa ataatgatat tcaagatatc 480  
 ttgaaaaaga aaaaattatc tcccgatgaa attgttaaatt atttggttaa ggcatcgcag 540  
 cttgggaaaa aagaaaagtt ctttttatat cttgatattg aaggtttggt attaaatgac 600  
 aagggaagg cataccttta taagcaaaag ttatcaccta ttccaataa aaatgtagtt 660  
 gaagagtata aagaatattt gtggaattct aataattcgg atatttcaaa agcaccaaat 720  
 aaattttcta ttattgaaac tacttattct gatacttctg gcaagggtgat tgctgattta 780  
 tattttgacg atgggcaatt ttatatttcc aaaagatata ctttcttctt taaaaaatat 840  
 gattattatt ggataattta tgattacatt gttcaaaata ctggcattaa ggaaaagtaa 900

<210> 280

<211> 171

<212> PRT

<213> Homo sapiens

<400> 280

Met Asn Trp Leu Ser Phe Phe Tyr Val Leu Leu Phe Leu Leu Ile Phe  
 1 5 10 15  
 Pro Phe Glu Leu Gln Ser Asn Asn Lys Glu Asn Ile Glu Asn Leu Ile  
 20 25 30  
 Lys Leu His Met Leu Tyr Asp Leu Thr Asn Asn Leu Ser Lys Glu Leu  
 35 40 45  
 Glu Thr Ile Asn Lys Ile Lys Asn Phe Asp Leu Glu Gln His Tyr Leu  
 50 55 60  
 Leu Ile Thr Lys Tyr Tyr Leu Lys Ile Lys Lys Tyr Lys Glu Ala Asn  
 65 70 75 80  
 Asp Phe Leu Lys Lys Ile Asn Gln Lys Lys Ile Lys Asn Gln Lys Ile  
 85 90 95  
 Lys Asn Glu Ile Ile Ser Leu Lys Leu Arg Ile Asn Glu Asp Asn Ile  
 100 105 110  
 Asn Glu Glu Glu Ile Lys Lys Ile Leu Asn Asn Glu Lys Asn Ile Asp  
 115 120 125  
 Val Lys Ile Ile Tyr Gln Ile Phe Ser Leu Ile Lys Phe Lys Asn Lys  
 130 135 140  
 Lys Leu Ala Asn Lys Ile Lys Asn Ile Ile Leu Thr Asn Tyr Pro Lys  
 145 150 155 160  
 Ser Ile Tyr Ser Tyr Lys Ile Lys Arg Asn Glu  
 165 170

<210> 281

<211> 149

<212> PRT

<213> Homo sapiens

<400> 281

Asn Asn Lys Glu Asn Ile Glu Asn Leu Ile Lys Leu His Met Leu Tyr  
 1 5 10 15  
 Asp Leu Thr Asn Asn Leu Ser Lys Glu Leu Glu Thr Ile Asn Lys Ile

```
<210> 282
<211> 516
<212> DNA
<213> Homo sapiens
```

```
<210> 283
<211> 450
<212> DNA
<213> Homo sapiens
```

<210> 284

&lt;211&gt; 405

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 284

Met Asn Ser Ile Tyr Val Ile Gly Lys Leu Leu Leu Thr Leu Phe Leu  
 1 5 10 15

Ile Phe Phe Pro Phe Cys Tyr Asn Leu Phe Ala Val Asn Leu Ala Glu  
 20 25 30

Ile Asn Lys Leu Ser Glu Tyr Ala Lys Ser Ile Val Leu Ile Asp Phe  
 35 40 45

Asp Thr Lys Arg Ile Leu Tyr Ser Lys Lys Pro Asn Leu Val Phe Pro  
 50 55 60

Pro Ala Ser Leu Thr Lys Ile Val Thr Ile Tyr Thr Ala Leu Ile Glu  
 65 70 75 80

Ala Glu Lys Arg Asn Ile Lys Leu Lys Ser Ile Val Pro Ile Ser Asp  
 85 90 95

Ser Ala Ser Tyr Tyr Asn Ala Pro Pro Asn Ser Ser Leu Met Phe Leu  
 100 105 110

Glu Lys Gly Gln Ile Val Asn Phe Glu Glu Ile Leu Lys Gly Leu Ser  
 115 120 125

Val Ser Ser Gly Asn Asp Ser Ser Ile Ala Ile Ala Glu Phe Val Val  
 130 135 140

Gly Asn Leu Asn Ser Phe Val Asn Leu Met Asn Ile Asn Val Leu Asn  
 145 150 155 160

Leu Gly Leu Phe Asn Met His Phe Val Glu Pro Ser Gly Tyr Ser Ser  
 165 170 175

Glu Asn Lys Ile Thr Ala Leu Asp Met Ala Phe Phe Val Lys Ser Tyr  
 180 185 190

Ile Glu Lys Phe Lys Phe Met Leu Asn Ile His Ser Leu Lys Tyr Phe  
 195 200 205

Ile Tyr Pro Lys Ser Arg Asn Leu Gly Thr Ala Leu Ser Ser Lys Phe  
 210 215 220

Leu Asn Leu Lys Gln Arg Asn Ala Asn Leu Leu Ile Tyr Asp Tyr Pro  
 225 230 235 240

Tyr Ser Asp Gly Ile Lys Thr Gly Tyr Ile Lys Glu Ser Gly Leu Asn  
 245 250 255

Leu Val Ala Thr Ala Lys Lys Gly Glu Arg Arg Leu Ile Ala Val Val  
 260 265 270

Leu Gly Val Glu Lys Gly Ile Asn Gly Phe Gly Glu Lys Met Arg Ser  
 275 280 285

Ser Ile Ala Lys Asn Leu Phe Glu Tyr Gly Phe Asn Lys Tyr Ser Lys  
290 295 300

Phe Pro Leu Ile Val Lys Leu Lys Glu Lys Val Tyr Asn Gly Thr Val  
305 310 315 320

Asp Thr Val Ala Leu Phe Ser Lys Glu Pro Phe Tyr Tyr Ile Leu Thr  
325 330 335

Lys Asp Glu Phe Asp Lys Ile Asn Ile Ser Tyr Thr Val Asp Lys Leu  
340 345 350

Val Ala Pro Leu Ser Gly Asp Met Pro Val Gly Arg Ala Met Ile Phe  
355 360 365

Leu Glu Asn Glu Lys Ile Gly Asp Val Ala Leu Phe Ser Gly Lys Val  
370 375 380

Lys Arg Leu Gly Phe Trp Gln Gly Leu Tyr Lys Ser Phe Ile Asn Leu  
385 390 395 400

Phe Ser Arg Glu Tyr  
405

<210> 285

<211> 378

<212> PRT

<213> Homo sapiens

<400> 285

Val Asn Leu Ala Glu Ile Asn Lys Leu Ser Glu Tyr Ala Lys Ser Ile  
1 5 10 15

Val Leu Ile Asp Phe Asp Thr Lys Arg Ile Leu Tyr Ser Lys Lys Pro  
20 25 30

Asn Leu Val Phe Pro Pro Ala Ser Leu Thr Lys Ile Val Thr Ile Tyr  
35 40 45

Thr Ala Leu Ile Glu Ala Glu Lys Arg Asn Ile Lys Leu Lys Ser Ile  
50 55 60

Val Pro Ile Ser Asp Ser Ala Ser Tyr Tyr Asn Ala Pro Pro Asn Ser  
65 70 75 80

Ser Leu Met Phe Leu Glu Lys Gly Gln Ile Val Asn Phe Glu Glu Ile  
85 90 95

Leu Lys Gly Leu Ser Val Ser Ser Gly Asn Asp Ser Ser Ile Ala Ile  
100 105 110

Ala Glu Phe Val Val Gly Asn Leu Asn Ser Phe Val Asn Leu Met Asn  
115 120 125

Ile Asn Val Leu Asn Leu Gly Leu Phe Asn Met His Phe Val Glu Pro  
130 135 140



Ser Gly Tyr Ser Ser Glu Asn Lys Ile Thr Ala Leu Asp Met Ala Phe  
 145 150 155 160  
 Phe Val Lys Ser Tyr Ile Glu Lys Phe Lys Phe Met Leu Asn Ile His  
 165 170 175  
 Ser Leu Lys Tyr Phe Ile Tyr Pro Lys Ser Arg Asn Leu Gly Thr Ala  
 180 185 190  
 Leu Ser Ser Lys Phe Leu Asn Leu Lys Gln Arg Asn Ala Asn Leu Leu  
 195 200 205  
 Ile Tyr Asp Tyr Pro Tyr Ser Asp Gly Ile Lys Thr Gly Tyr Ile Lys  
 210 215 220  
 Glu Ser Gly Leu Asn Leu Val Ala Thr Ala Lys Lys Gly Glu Arg Arg  
 225 230 235 240  
 Leu Ile Ala Val Val Leu Gly Val Glu Lys Gly Ile Asn Gly Phe Gly  
 245 250 255  
 Glu Lys Met Arg Ser Ser Ile Ala Lys Asn Leu Phe Glu Tyr Gly Phe  
 260 265 270  
 Asn Lys Tyr Ser Lys Phe Pro Leu Ile Val Lys Leu Lys Glu Lys Val  
 275 280 285  
 Tyr Asn Gly Thr Val Asp Thr Val Ala Leu Phe Ser Lys Glu Pro Phe  
 290 295 300  
 Tyr Tyr Ile Leu Thr Lys Asp Glu Phe Asp Lys Ile Asn Ile Ser Tyr  
 305 310 315 320  
 Thr Val Asp Lys Leu Val Ala Pro Leu Ser Gly Asp Met Pro Val Gly  
 325 330 335  
 Arg Ala Met Ile Phe Leu Glu Asn Glu Lys Ile Gly Asp Val Ala Leu  
 340 345 350  
 Phe Ser Gly Lys Val Lys Arg Leu Gly Phe Trp Gln Gly Leu Tyr Lys  
 355 360 365  
 Ser Phe Ile Asn Leu Phe Ser Arg Glu Tyr  
 370 375

&lt;210&gt; 286

&lt;211&gt; 1218

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 286

atgaatagta tctatgttat tgggaaattg ttattaactt tatttttaaat ttttttcccg 60  
 ttttggtata atctttttgc agttaattta gctgagatta ataaattatc agagtatgca 120  
 aagtcaatag ttttaataga ttttgatact aagcgaatac tttattctaa gaagcccaat 180  
 ttggtttttc ctccagcatc tcttacaaag attgttacia tttatacagc ttttaattgaa 240  
 gctgaaaagc gaaatataaa attaaaaagc atagttccta ttagcgattc tgcttcatat 300  
 tataatgcac cccccaattc ttctttgatg ttttttagaaa aaggtcaaatt tgtaattttt 360  
 gaagagattt taaaaggact ttcagtttct tcgggtaatg attcttctat tgcaattgct 420

```

gagttttag taggcaattt aaatagcttt gttaatttaa tgaatattaa tgttttaaat 480
ttagggcttt ttaatatgca ttttgttgaa ccttctggat atagcagcga gaataagatt 540
acagcactag atatggcttt ttttgtgaaa tcttatatag aaaagtttaa atttatgctt 600
aatattcatt ctttaaagta ttttatttat ccaaagagta gaaatttagg aactgctttg 660
tcatcaaaat ttttaaactt aaaacaaaga aatgctaatt tattaatata tgattaccct 720
tattcagatg gcattaaaac gggatatatt aaggaatcag gcttaaatct tgttgctact 780
gctaaaaagg gtgagagaag attaatagca gttgtattgg ggggtgaaaa aggaattaat 840
ggatttggag agaaaatgag atcttcgatt gcaaaaaatt tatttgaata tggatttaat 900
aaatattcta aatttccttt aatagtaaaa ttaaaagaaa aagtctataa tggtagactg 960
gatacagttg ctcttttttc taaagagcct ttttattata ttttaactaa agatgaattt 1020
gataaaaatta atataagtta tactgttgat aaattgggtg ctccacttag tggggatatg 1080
cctgttgga gggctatgat ttttttagaa aatgaaaaaa taggggatgt tgccttggtt 1140
agtggcaagg taaaaagatt aggggttttg caaggtcttt ataagagttt tataaatctt 1200
ttttcaagag agtattaa 1218

```

&lt;210&gt; 287

&lt;211&gt; 1137

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 287

```

gttaatttag ctgagattaa taaattatca gagtatgcaa agtcaatagt tttaatagat 60
tttgatacta agcgaatact ttattctaag aagcccaatt tggtttttcc tccagcatct 120
cttacaaga ttgttacaat ttatacagct ttaattgaag ctgaaaagcg aaatataaaa 180
ttaaaaagca tagttcctat tagcgattct gcttcattat ataatgcacc cccaattctt 240
tctttgatgt ttttagaaaa aggtcaaatt gttaattttg aagagatttt aaaaggactt 300
tcagtttctt cgggtaatga ttcttctatt gcaattgctg agtttgtagt aggcaattta 360
aatagctttg ttaatttaat gaatattaat gttttaaatt tagggctttt taatatgcat 420
tttggtgaac cttctggata tagcagcgag aataagatta cagcactaga tatggctttt 480
tttggtgaaat cttatataga aaagtttaaa tttatgctta atattcattc tttaaagtat 540
tttatttatc caaagagtag aaatttagga actgctttgt catcaaaatt tttaaactta 600
aaacaaagaa atgctaattt attaatatat gattaccctt attcagatgg cattaaaacg 660
ggatatatta aggaatcagg cttaaatctt gttgctactg ctaaaaaggg tgagagaaga 720
ttaatagcag ttgtattggg ggttgaaaaa ggaattaatg gatttggaga gaaaatgaga 780
tcttcgattg caaaaaattt atttgaatat ggattttaata aatattctaa atttccttta 840
atagtaaaat taaaagaaaa agtctataat ggtacagtgg atacagtgtc tcttttttct 900
aaagagcctt tttattatat ttttaactaaa gatgaatttg ataaaattaa tataagttat 960
actgttgata aattggttgc tccacttagt ggggatatgc ctgttgggag ggctatgatt 1020
tttttagaaa atgaaaaaat aggggatgtt gctttgttta gtggcaaggt aaaaagatta 1080
gggttttggc aaggtcttta taagagtttt ataaatcttt tttcaagaga gtattaa 1137

```

&lt;210&gt; 288

&lt;211&gt; 500

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 288

Met Asn Ser Tyr Asp Phe Ile Thr Ala Leu Val Pro Ile Ile Leu Ile

1

5

10

15

Ile Ile Gly Leu Gly Ile Ile Lys Lys Pro Ala Tyr Tyr Val Ile Pro

20

25

30

Ile Ser Leu Ile Ala Thr Val Ala Ile Val Ile Phe Tyr Lys Asn Leu

35

40

45

Gly Ile Val Asn Thr Ser Leu Ala Met Leu Glu Gly Ala Leu Met Gly

50

55

60

Ile Trp Pro Ile Ala Thr Val Ile Ile Ala Ala Ile Phe Thr Tyr Lys  
 65 70 75 80  
 Met Ser Glu Asp Gln Lys Asp Ile Glu Thr Ile Lys Asn Ile Leu Ser  
 85 90 95  
 Asn Val Ser Ser Asp Arg Arg Ile Ile Val Leu Leu Val Ala Trp Gly  
 100 105 110  
 Phe Gly Asn Phe Leu Glu Gly Val Ala Gly Tyr Gly Thr Ala Val Ala  
 115 120 125  
 Ile Pro Val Ser Ile Leu Ile Ala Met Gly Phe Glu Pro Phe Phe Ala  
 130 135 140  
 Cys Leu Ile Cys Leu Ile Met Asn Thr Ser Ser Thr Ala Tyr Gly Ser  
 145 150 155 160  
 Val Gly Ile Pro Ile Thr Ser Leu Ala Gln Ala Thr Asn Leu Asp Val  
 165 170 175  
 Asn Ile Val Ser Ser Glu Ile Ala Phe Gln Leu Ile Leu Pro Thr Leu  
 180 185 190  
 Thr Ile Pro Phe Val Leu Val Ile Leu Thr Gly Gly Gly Ile Lys Gly  
 195 200 205  
 Leu Lys Gly Val Phe Leu Leu Thr Leu Leu Ser Gly Met Ser Met Ala  
 210 215 220  
 Ile Ser Gln Val Phe Ile Ser Lys Thr Leu Gly Pro Glu Leu Pro Ala  
 225 230 235 240  
 Ile Leu Gly Ser Ile Leu Ser Met Thr Ile Thr Ile Val Tyr Ala Arg  
 245 250 255  
 Phe Phe Gly Asn Lys Glu Thr Thr Glu Arg Gln Ser Lys Asn Thr Ile  
 260 265 270  
 Ser Leu Ser Lys Gly Ile Ile Ala Cys Ser Pro Tyr Ile Leu Ile Val  
 275 280 285  
 Thr Phe Ile Val Leu Val Ser Pro Leu Phe Asn Lys Ile His Glu Tyr  
 290 295 300  
 Leu Lys Thr Phe Gln Ser Thr Ile Ser Ile Tyr Pro Glu Ala Asn Pro  
 305 310 315 320  
 Leu His Phe Lys Trp Ile Ile Ser Pro Gly Phe Leu Ile Ile Leu Ala  
 325 330 335  
 Thr Thr Ile Ser Tyr Ser Ile Arg Gly Val Pro Met Leu Lys Gln Leu  
 340 345 350  
 Lys Ile Phe Thr Leu Thr Leu Lys Lys Met Ala Leu Ser Ser Phe Ile  
 355 360 365

Ile Ile Cys Ile Val Ala Ile Ser Arg Leu Met Thr His Ser Gly Met  
370 375 380

Ile Arg Asp Leu Ala Asn Gly Ile Ser Ile Ile Thr Gly Lys Phe Gly  
385 390 395 400

Pro Leu Phe Ser Pro Leu Ile Gly Ala Ile Gly Thr Phe Leu Thr Gly  
405 410 415

Ser Asp Thr Val Ser Asn Val Leu Phe Gly Pro Leu Gln Thr Gln Met  
420 425 430

Ala Glu Asn Ile Gly Ala Asn Pro Tyr Trp Leu Ala Ala Ala Asn Thr  
435 440 445

Thr Gly Ala Thr Gly Gly Lys Met Ile Ser Pro Gln Asn Ile Thr Ile  
450 455 460

Ala Thr Thr Thr Ala Gly Leu Ile Gly Gln Glu Gly Lys Leu Leu Ser  
465 470 475 480

Lys Thr Ile Ile Tyr Ala Leu Tyr Tyr Ile Leu Ala Thr Gly Leu Leu  
485 490 495

Val Tyr Leu Val  
500

<210> 289

<211> 416

<212> PRT

<213> Homo sapiens

<400> 289

Gln Lys Asp Ile Glu Thr Ile Lys Asn Ile Leu Ser Asn Val Ser Ser  
1 5 10 15

Asp Arg Arg Ile Ile Val Leu Leu Val Ala Trp Gly Phe Gly Asn Phe  
20 25 30

Leu Glu Gly Val Ala Gly Tyr Gly Thr Ala Val Ala Ile Pro Val Ser  
35 40 45

Ile Leu Ile Ala Met Gly Phe Glu Pro Phe Phe Ala Cys Leu Ile Cys  
50 55 60

Leu Ile Met Asn Thr Ser Ser Thr Ala Tyr Gly Ser Val Gly Ile Pro  
65 70 75 80

Ile Thr Ser Leu Ala Gln Ala Thr Asn Leu Asp Val Asn Ile Val Ser  
85 90 95

Ser Glu Ile Ala Phe Gln Leu Ile Leu Pro Thr Leu Thr Ile Pro Phe  
100 105 110

Val Leu Val Ile Leu Thr Gly Gly Gly Ile Lys Gly Leu Lys Gly Val  
115 120 125

Phe Leu Leu Thr Leu Leu Ser Gly Met Ser Met Ala Ile Ser Gln Val

130	135	140
Phe Ile Ser Lys Thr	Leu Gly Pro Glu Leu	Pro Ala Ile Leu Gly Ser
145	150	155 160
Ile Leu Ser Met Thr	Ile Thr Ile Val Tyr	Ala Arg Phe Phe Gly Asn
165	170	175
Lys Glu Thr Thr	Glu Arg Gln Ser Lys Asn Thr	Ile Ser Leu Ser Lys
180	185	190
Gly Ile Ile Ala Cys Ser	Pro Tyr Ile Leu Ile	Val Thr Phe Ile Val
195	200	205
Leu Val Ser Pro Leu	Phe Asn Lys Ile His	Glu Tyr Leu Lys Thr Phe
210	215	220
Gln Ser Thr Ile Ser	Ile Tyr Pro Glu Ala	Asn Pro Leu His Phe Lys
225	230	235 240
Trp Ile Ile Ser Pro	Gly Phe Leu Ile Ile	Leu Ala Thr Thr Ile Ser
245	250	255
Tyr Ser Ile Arg Gly	Val Pro Met Leu Lys	Gln Leu Lys Ile Phe Thr
260	265	270
Leu Thr Leu Lys Lys	Met Ala Leu Ser Ser	Phe Ile Ile Ile Cys Ile
275	280	285
Val Ala Ile Ser Arg	Leu Met Thr His Ser	Gly Met Ile Arg Asp Leu
290	295	300
Ala Asn Gly Ile Ser	Ile Ile Thr Gly Lys	Phe Gly Pro Leu Phe Ser
305	310	315 320
Pro Leu Ile Gly Ala	Ile Gly Thr Phe Leu	Thr Gly Ser Asp Thr Val
325	330	335
Ser Asn Val Leu Phe	Gly Pro Leu Gln Thr	Gln Met Ala Glu Asn Ile
340	345	350
Gly Ala Asn Pro Tyr	Trp Leu Ala Ala Ala	Asn Thr Thr Gly Ala Thr
355	360	365
Gly Gly Lys Met Ile	Ser Pro Gln Asn Ile	Thr Ile Ala Thr Thr Thr
370	375	380
Ala Gly Leu Ile Gly	Gln Glu Gly Lys Leu	Leu Ser Lys Thr Ile Ile
385	390	395 400
Tyr Ala Leu Tyr Tyr	Ile Leu Ala Thr Gly	Leu Leu Val Tyr Leu Val
405	410	415

&lt;210&gt; 290

&lt;211&gt; 1503

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 290

```

atgaattctt atgattttat aacagctttg gtaccaataa tcctaataat tattggactt 60
ggcataataa aaaagccagc ttactatgta ataccatata cattaatagc caccgttgct 120
atagttatat ttataaaaaa cttgggaata gtaaacacaa gtcttgcaat gcttgagggc 180
gccttaatgg ggatatggcc aatagcaact gtaattattg ctgccatatt tacatacaaa 240
atgtcagaag atcaaaaaga tatagaaact attaaaaata ttttatcaaa cgtatcttct 300
gatagaagaa ttatagtatt actagttgca tggggatttg gaaatttttt agaaggagtt 360
gctggatatg gaactgctgt tgcaattcct gtatcaatat taatagcaat gggatttgaa 420
ccattttttg cctgcttaat ctgtttaata atgaacacct catcaaccgc ctacggatct 480
gtgggaatcc ctataacatc tttagctcaa gcaactaact tggatgttaa cattgtttca 540
tctgagattg cattccaact aatacttcca accttaacaa taccttttgt actggttaatt 600
cttacaggag ggggcattaa aggattaaaa ggagtattcc ttcttacctt actctcagga 660
atgtcaatgg caatatctca agtattttata tcaaaaactt tgggtccaga acttcttgca 720
atccttgga gcatctcttc tatgacaata acaatagttt atgcaagggt ttttggaat 780
aaagaaacta ctgagcgcca aagcaaaaac acaatatcct tatcaaaagg aattattgct 840
tgctcaccct acattttaat agtaactttt atagtgttg tatctctct ttttaacaaa 900
attcatgaat acctaaaaac ttttcaaagc actattagca tttatccaga agcaaatccc 960
ttacacttta aatggattat ctctccgggc ttcttgatta tacttgcaac aacaatatcc 1020
tattcaatc ggggagttcc aatgttaaaa cagctaaaaa tatttacatt aaccttgaaa 1080
aaaatggcat tatcttctct tataatcata tgcattgttg caatatcaag attaatgaca 1140
catagtggaa tgataagaga tcttgcta at ggaatctcaa taataacagg taaatttgga 1200
ccattattta gccactaat tggagctatt gggacatttt taacaggaag tgatacgggt 1260
tcaaattgtt ttttggacc tttacaaaca caaatggcag aaaatatgg agcaaatcct 1320
tactggcttg cagcagcaaa tacaacagga gcaactggag ggaaaatgat ttctcccaa 1380
aacatcacia tagcaacaac aactgctgga ttaattggac aagaaggcaa gcttttatca 1440
aaaacaataa tttatgcttt atactacatt ttagcaacag gattgctagt ttatttagta 1500
taa 1503

```

&lt;210&gt; 291

&lt;211&gt; 1171

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 291

```

caaaaagata tagaaactat taaaaatatt ttatcaaacg tatcttctga tagaagaatt 60
atagtattac tagttgcatg gggatttgga aatttttttag aaggagttgc tggatatgga 120
actgctgttg caattcctgt atcaatatta atagcaatgg gatttgaacc attttttgcc 180
tgcttaatct gttaataat gaacacctca tcaaccgcct acggatctgt gggaaatccc 240
ataacatctt tagctcaagc aactaacttg gatgttaaca ttgtttcatc tgagattgca 300
ttccaactaa tacttccaac cttaacaata ccttttgtac tggtaattct tacaggaggg 360
ggcattaaag gattaaaagg agtatcctt cttaccttac tctcaggaat gtcaatggca 420
atatctcaag tattttatc aaaaactttg ggtccagaac ttcctgcaat ccttggaagc 480
attctttcta tgacaataac aatagtttat gcaaggtttt ttggaaataa agaactact 540
gagcgccaaa gcaaaaacac aatatcctta tcaaaaggaa ttattgcctg ctaccctac 600
attttaatag taacttttat agtgcttgta tctctcttt ttaacaaaat tcatgaatac 660
ctaaaaactt ttcaaagcac tatttagcatt tatccagaag caaatccctt acactttaaa 720
tggattatct ctccgggctt cttgattata cttgcaacaa caatatccta ttcaatacgg 780
ggagttccaa tgttaaaaca gctaaaaata tttacattaa ccttgaaaaa aatggcatta 840
tcttcttcta taatcatatg cattgttgca atatcaagat taatgacaca tagtggatg 900
ataagagatc ttgctaattg aatctcaata ataacaggta aatttggacc attatttagc 960
ccactaattg gagctatttg gacattttta acaggaagtg atacggtttc aaatgttctt 1020
tttggacctt tacaacacaa aatggcagaa aatattggag caaatcctta ctggcttgca 1080
gcagcaataa caacaggagc aactggaggg aaaatgattt ctccccaaaa catcacaata 1140
gcaacaacaa ctgctggatt aattggacaa g 1171

```

<210> 292  
 <211> 250  
 <212> PRT  
 <213> Homo sapiens

<400> 292

```

Met Pro Ser Pro Ile Arg Val Phe Phe Leu Val Leu Leu Phe Ile Phe
 1           5           10           15

Ile Phe Asn Pro Val Leu Ile Ala Met Leu Phe Ile Leu Phe Pro Phe
          20           25           30

Ile Leu Ile Leu Phe Ser Phe Leu Gly Val Phe Arg Ile Tyr Phe Thr
 35           40           45

Arg Asp Tyr Ser Tyr Ser Arg Ser Arg Glu Phe Glu Phe Tyr Lys Leu
 50           55           60

Ser Phe Leu Leu Met Ala Lys Leu Leu Ser Ile Leu Gly Thr Val Thr
 65           70           75           80

Gly Glu Gln Leu Asn Tyr Val Asn Phe Ile Ile Asn Ser Leu Asn Leu
          85           90           95

Ser Glu Arg Gly Lys Ser Glu Leu Tyr Thr Ile Phe His Ser Ala Ile
          100          105          110

Thr Lys Asn Asn Asn Ala Asp Lys Ile Leu Tyr Thr Leu Lys Leu Gly
          115          120          125

Tyr Phe Gln His Lys Asp Leu Phe Ile Trp Leu Phe Ala Thr Leu Lys
          130          135          140

Glu Ile Asn Arg Leu Ser Arg Tyr Lys Asn Leu Glu Ala Glu Lys Phe
          145          150          155          160

Ile Ser Tyr Val Gly Val Phe Leu Glu Leu Glu Ser Asp Gly Tyr Glu
          165          170          175

Ala Tyr Lys Asp Ile Asn Ile Lys Ile Val Asn Pro Tyr Ser Val Leu
          180          185          190

Gly Leu Thr Tyr Ser Ala Ser Asp Asp Glu Val Lys Lys Ala Tyr Lys
          195          200          205

Ser Leu Val Ile Lys Tyr His Pro Asp Lys Phe Ala Asn Asp Pro Val
          210          215          220

Arg Gln Lys Asp Ala Asn Asp Lys Phe Ile Lys Ile Gln Asp Ala Tyr
          225          230          235          240

Glu Lys Ile Cys Lys Glu Arg Asn Ile Arg
          245          250

```

<210> 293  
 <211> 206  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 293

Ile Tyr Phe Thr Arg Asp Tyr Ser Tyr Ser Arg Ser Arg Glu Phe Glu  
 1 5 10 15

Phe Tyr Lys Leu Ser Phe Leu Leu Met Ala Lys Leu Leu Ser Ile Leu  
 20 25 30

Gly Thr Val Thr Gly Glu Gln Leu Asn Tyr Val Asn Phe Ile Ile Asn  
 35 40 45

Ser Leu Asn Leu Ser Glu Arg Gly Lys Ser Glu Leu Tyr Thr Ile Phe  
 50 55 60

His Ser Ala Ile Thr Lys Asn Asn Asn Ala Asp Lys Ile Leu Tyr Thr  
 65 70 75 80

Leu Lys Leu Gly Tyr Phe Gln His Lys Asp Leu Phe Ile Trp Leu Phe  
 85 90 95

Ala Thr Leu Lys Glu Ile Asn Arg Leu Ser Arg Tyr Lys Asn Leu Glu  
 100 105 110

Ala Glu Lys Phe Ile Ser Tyr Val Gly Val Phe Leu Glu Leu Glu Ser  
 115 120 125

Asp Gly Tyr Glu Ala Tyr Lys Asp Ile Asn Ile Lys Ile Val Asn Pro  
 130 135 140

Tyr Ser Val Leu Gly Leu Thr Tyr Ser Ala Ser Asp Asp Glu Val Lys  
 145 150 155 160

Lys Ala Tyr Lys Ser Leu Val Ile Lys Tyr His Pro Asp Lys Phe Ala  
 165 170 175

Asn Asp Pro Val Arg Gln Lys Asp Ala Asn Asp Lys Phe Ile Lys Ile  
 180 185 190

Gln Asp Ala Tyr Glu Lys Ile Cys Lys Glu Arg Asn Ile Arg  
 195 200 205

&lt;210&gt; 294

&lt;211&gt; 753

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 294

atgccaagcc caattagagt gtttttttta gtgttggtgt ttatttttat ttttaatccc 60  
 gttttaatag caatgctttt tattttatct ccttttatct tgatattatt tagtttttta 120  
 ggtgttttta gaatatactt tacaagggat tactcatatt etagatctag agagtgtgaa 180  
 ttttataaac tttctttttt attaatggct aaattgctat ctatttttagg aactgtaact 240  
 ggggagcagc taaattatgt caattttatt atcaattctt tgaatttgct tgaacgtggt 300  
 aaatcagaat tgtataccat ttttcattct gctattacta aaaataataa tgctgataaa 360  
 attttatata cccttaagct tggttatttt cagcacaaaag atctttttat atggcttttt 420  
 gccactctta aagaaattaa caggctttct aggtataaaa atttagaagc tgaaaaatct 480  
 atttcttatg ttggtgtttt tttagaactt gaatctgatg gttatgaagc ttataaagat 540  
 attaatatta aaattgtaaa tccttatagt gttttggggg taacatatag tgctagcgat 600  
 gatgagggtta aaaaggcgta taaaagcctt gttataaaat atcatcctga taagtgtgca 660



aatgatcctg taagacaaaa agatgcaa at gataaattta taaaaattca agatgcttat 720  
 gaaaaaattt gcaaggaaag aaatataagg taa 753

<210> 295

<211> 621

<212> DNA

<213> Homo sapiens

<400> 295

atatacttta caagggatta ctcatattct agatctagag agtttgaatt ttataaaactt 60  
 tcttttttat taatggctaa attgctatct attttaggaa ctgtaactgg ggagcagcta 120  
 aattatgtca attttattat caattccttg aatttgtctg aacgtggtaa atcagaattg 180  
 tataccattt ttcattctgc tattactaaa aataataatg ctgataaaat tttatatacc 240  
 ctttaagcttg gttattttca gcacaaagat ctttttatat ggctttttgc cactcttaaa 300  
 gaaattaaca ggctttctag gtataaaaat ttagaagctg aaaaatttat ttcttatgtt 360  
 ggtgtttttt tagaacttga atctgatggt tatgaagctt ataaagatat taatattaaa 420  
 attgtaaatc cttatagtgt tttgggggta acatatagtg ctagcgatga tgaggttaaa 480  
 aaggcgtata aaagccttgt tataaaatat catcctgata agtttgcaaa tgatcctgta 540  
 agacaaaaag atgcaaataa taaatttata aaaattcaag atgcttatga aaaaatttgc 600  
 aaggaaagaa atataaggta a 621

<210> 296

<211> 323

<212> PRT

<213> Homo sapiens

<400> 296

Met Lys Lys Lys Asn Leu Ser Ile Tyr Met Ile Met Leu Ile Ser Leu  
 1 5 10 15  
 Leu Ser Cys Asn Thr Ser Asp Pro Asn Glu Leu Thr Arg Lys Lys Met  
 20 25 30  
 Gln Asp Lys Asn Val Lys Ile Leu Gly Phe Leu Glu Lys Ile Gln Ala  
 35 40 45  
 Asp Asn Lys Glu Ile Val Glu Lys His Ile Glu Lys Lys Glu Lys Gln  
 50 55 60  
 Met Val Gln Ala Ala Ser Val Ala Pro Ile Asn Val Glu Ser Asn Phe  
 65 70 75 80  
 Pro Tyr Tyr Leu Gln Glu Glu Ile Glu Ile Lys Glu Glu Glu Leu Val  
 85 90 95  
 Pro Asn Thr Asp Glu Glu Lys Lys Ala Glu Lys Ala Ile Ser Asp Gly  
 100 105 110  
 Ser Leu Glu Phe Ala Lys Leu Val Asp Asp Glu Asn Lys Leu Lys Asn  
 115 120 125  
 Glu Ser Ala Gln Leu Glu Ser Ser Phe Asn Asn Val Tyr Lys Glu Ile  
 130 135 140  
 Leu Glu Leu Ala Asp Leu Ile Gln Ala Glu Val His Val Ala Gly Arg  
 145 150 155 160  
 Ile Asn Ser Tyr Ile Lys Lys Arg Lys Thr Thr Lys Glu Lys Glu Tyr

	165		170		175
Lys Lys Arg Glu Ile Lys Asn Lys Ile Glu Lys Gln Ala Leu Ile Lys	180		185		190
Leu Phe Asn Gln Leu Leu Glu Lys Arg Gly Asp Ile Glu Asn Leu His	195		200		205
Thr Gln Leu Asn Ser Gly Leu Ser Glu Arg Ala Ser Ala Lys Tyr Phe	210		215		220
Phe Glu Lys Ala Lys Glu Thr Leu Lys Ala Ala Ile Thr Glu Arg Leu	225		230		235
Asn Asn Lys Arg Lys Asn Arg Pro Trp Trp Ala Arg Arg Thr His Ser	245		250		255
Asn Leu Ala Ile Gln Ala Lys Asn Glu Ala Glu Asp Ala Leu Asn Gln	260		265		270
Leu Ser Thr Ser Ser Phe Arg Ile Leu Glu Ala Met Lys Ile Lys Glu	275		280		285
Asp Val Lys Gln Leu Leu Glu Glu Val Lys Ser Phe Leu Asp Ser Ser	290		295		300
Lys Ser Lys Ile Phe Ser Ser Gly Asp Arg Leu Tyr Asp Phe Leu Glu	305		310		315
Thr Ser Lys					320

<210> 297  
 <211> 299  
 <212> PRT  
 <213> Homo sapiens

<400> 297  
 Asn Glu Leu Thr Arg Lys Lys Met Gln Asp Lys Asn Val Lys Ile Leu  
 1 5 10 15  
 Gly Phe Leu Glu Lys Ile Gln Ala Asp Asn Lys Glu Ile Val Glu Lys  
 20 25 30  
 His Ile Glu Lys Lys Glu Lys Gln Met Val Gln Ala Ala Ser Val Ala  
 35 40 45  
 Pro Ile Asn Val Glu Ser Asn Phe Pro Tyr Tyr Leu Gln Glu Glu Ile  
 50 55 60  
 Glu Ile Lys Glu Glu Glu Leu Val Pro Asn Thr Asp Glu Glu Lys Lys  
 65 70 75 80  
 Ala Glu Lys Ala Ile Ser Asp Gly Ser Leu Glu Phe Ala Lys Leu Val  
 85 90 95  
 Asp Asp Glu Asn Lys Leu Lys Asn Glu Ser Ala Gln Leu Glu Ser Ser  
 100 105 110

Phe Asn Asn Val Tyr Lys Glu Ile Leu Glu Leu Ala Asp Leu Ile Gln  
           115                          120                          125  
 Ala Glu Val His Val Ala Gly Arg Ile Asn Ser Tyr Ile Lys Lys Arg  
           130                          135                          140  
 Lys Thr Thr Lys Glu Lys Glu Tyr Lys Lys Arg Glu Ile Lys Asn Lys  
           145                          150                          155                          160  
 Ile Glu Lys Gln Ala Leu Ile Lys Leu Phe Asn Gln Leu Leu Glu Lys  
                           165                          170                          175  
 Arg Gly Asp Ile Glu Asn Leu His Thr Gln Leu Asn Ser Gly Leu Ser  
                           180                          185                          190  
 Glu Arg Ala Ser Ala Lys Tyr Phe Phe Glu Lys Ala Lys Glu Thr Leu  
                           195                          200                          205  
 Lys Ala Ala Ile Thr Glu Arg Leu Asn Asn Lys Arg Lys Asn Arg Pro  
           210                          215                          220  
 Trp Trp Ala Arg Arg Thr His Ser Asn Leu Ala Ile Gln Ala Lys Asn  
           225                          230                          235                          240  
 Glu Ala Glu Asp Ala Leu Asn Gln Leu Ser Thr Ser Ser Phe Arg Ile  
                           245                          250                          255  
 Leu Glu Ala Met Lys Ile Lys Glu Asp Val Lys Gln Leu Leu Glu Glu  
                           260                          265                          270  
 Val Lys Ser Phe Leu Asp Ser Ser Lys Ser Lys Ile Phe Ser Ser Gly  
                           275                          280                          285  
 Asp Arg Leu Tyr Asp Phe Leu Glu Thr Ser Lys  
           290                          295

&lt;210&gt; 298

&lt;211&gt; 972

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 298

atgaaaaaaaaaaa aaaattttatc aattttacatg ataatgctaa taagttttatt atcatgtaat 60  
 acaagtgacc ccaatgaatt aactcgtaaa aaaatgcaag acaagaacgt gaaaatttta 120  
 ggattttttag agaaaattca agcagataat aaagaaattg ttgaaaaaca tatagaaaaa 180  
 aaagaaaaaac aaatggtgca ggctgcttct gtagcaccta ttaatgtaga gagtaatttc 240  
 ccatattatc ttcaagaaga aatagagata aaagaagaag agttggttcc aaatactgat 300  
 gaagaaaaga aggcagagaa ggcaattagc gatgggagtc ttgaatttgc taaattagtt 360  
 gatgatgaaa ataaacttaa aaatgaatct gcgcaattag aatctagttt taataatggt 420  
 tataaagaaa tcttagaact tgcagattta atacaagcag aggtgcatgt tgcaggaagg 480  
 ataaatagct atataaaaaa agaaaagacc actaaagaaa aagaatataa gaagagagaa 540  
 attaagaata agatagaaaa acaggctcta attaatgtgt tcaatcagtt attagaaaaa 600  
 agaggcgata ttgaaaatct tcatactcaa ttaaatagtg gacttagcga gagagcatct 660  
 gcaaaatact tttttgagaa agccaaagaa actttaaaag ctgctattac tgaaagatta 720  
 aataacaaac gtaaaaatcg gccatggttg gcaagaagaa cacatagtaa tttagcaata 780  
 caggcaaaaa atgaggcaga ggatgcttta aaccaattaa gtacttcttc ttttaggata 840  
 cttgaagcaa tgaaaaataa ggaagatgta aaacagcttc ttgaagaagt aaaatctttt 900

ctagattctt caaagagcaa aatcttttct agtggcgata gattatatga ttttttagag 960  
acgagtaaataa aa 972

<210> 299

<211> 900

<212> DNA

<213> Homo sapiens

<400> 299

aatgaattaa ctgcgtaaaaa aatgcaagac aagaacgtga aaatttttagg attttttagag 60  
aaaattcaag cagataataa agaaattggt gaaaaacata tagaaaaaaa agaaaaacaa 120  
atgggtgcagg ctgcttctgt agcacctatt aatgtagaga gtaatttccc atattatctt 180  
caagaagaaa tagagataaa agaagaagag ttgggttccaa atactgatga agaaaagaag 240  
gcagagaagg caattagcga tgggagtctt gaatttgcta aattagttga tgatgaaaat 300  
aaacttaaaa atgaatctgc gcaattagaa tctagtttta ataatgttta taaagaaatc 360  
ttagaacttg cagatttaac acaagcagag gtgcatgttg caggaaggat aaatagctat 420  
ataaaaaaaa gaaagaccac taaagaaaaa gaataaaga agagagaaat taagaataag 480  
atagaaaaac aggtctctaat taagtgttc aatcagttat tagaaaaaag aggcgatatt 540  
gaaatcttc atactcaatt aaatagtggg cttagcgaga gagcatctgc aaaatacttt 600  
tttgagaaaag ccaaagaaac tttaaaagct gctattactg aaagattaaa taacaaacgt 660  
aaaaatcggc catggtgggc aagaagaaca catagtaatt tagcaataca ggcaaaaaat 720  
gaggcagagg atgctttaaa ccaattaagt acttcttctt ttaggatact tgaagcaatg 780  
aaaataaagg aagatgtaaa acagcttctt gaagaagtaa aatcttttct agattcttca 840  
aagagcaaaa tcttttctag tggcgataga ttatatgatt ttttagagac gaggtaaataa 900

<210> 300

<211> 260

<212> PRT

<213> Homo sapiens

<400> 300

Met Asn Lys Lys Ile Leu Thr Leu Leu Val Leu Ile Leu Ser Ile Ser  
1 5 10 15  
Ser Val Leu Met Leu Ser Lys Ser Ile Thr Lys Lys Ser Lys Tyr Lys  
20 25 30  
Ile Ile Arg Asp Tyr Phe Ile Asn Ser Asn Tyr Val Leu Val Lys Ile  
35 40 45  
Glu Asn Lys Asp Leu Lys Phe Thr Ile Ser Lys Pro Ile Tyr Asp Lys  
50 55 60  
Lys Leu Asn Asn Tyr Phe Phe Lys Gly Gln Thr Thr Ser His Phe Leu  
65 70 75 80  
Ile Ser Asn Asn Val Asp Ile Ala Ile Asn Thr Ser Pro Tyr Glu Val  
85 90 95  
Lys Gln Asn Met Phe Phe Pro Lys Gly Leu Tyr Ile Tyr Asn Lys Lys  
100 105 110  
Met Ile Ser Lys Gln Ile Asn Asn Tyr Gly Glu Ile Val Ile Lys His  
115 120 125  
Asn Lys Ile Ile Leu Asn Pro Lys Glu Asp Glu Ile Glu Asn Cys Asp  
130 135 140

Tyr Gly Phe Ser Gly Phe Phe Val Leu Ile Lys Asn Gly Lys Tyr Lys  
145 150 155 160

Lys Asn Phe Lys Glu Thr Arg His Pro Arg Thr Ile Ile Gly Thr Asp  
165 170 175

Lys Asn Asn Lys His Leu Phe Leu Val Thr Ile Glu Gly Arg Gly Val  
180 185 190

Asn Asn Ser Lys Gly Ala Ser Leu Asn Glu Ala Ile Asp Phe Ala Leu  
195 200 205

Ser Tyr Gly Met Thr Asn Ala Ile Asn Leu Asp Gly Gly Gly Ser Ser  
210 215 220

Thr Leu Val Val Lys Ser Asn Asn Ala Pro Tyr Lys Leu Asn Phe Thr  
225 230 235 240

Ala Asn Ile Phe Gly Gln Glu Arg Pro Val Pro Phe His Leu Gly Ile  
245 250 255

Lys Leu Pro Asn  
260

<210> 301

<211> 240

<212> PRT

<213> Homo sapiens

<400> 301

Leu Ser Lys Ser Ile Thr Lys Lys Ser Lys Tyr Lys Ile Ile Arg Asp  
1 5 10 15

Tyr Phe Ile Asn Ser Asn Tyr Val Leu Val Lys Ile Glu Asn Lys Asp  
20 25 30

Leu Lys Phe Thr Ile Ser Lys Pro Ile Tyr Asp Lys Lys Leu Asn Asn  
35 40 45

Tyr Phe Phe Lys Gly Gln Thr Thr Ser His Phe Leu Ile Ser Asn Asn  
50 55 60

Val Asp Ile Ala Ile Asn Thr Ser Pro Tyr Glu Val Lys Gln Asn Met  
65 70 75 80

Phe Phe Pro Lys Gly Leu Tyr Ile Tyr Asn Lys Lys Met Ile Ser Lys  
85 90 95

Gln Ile Asn Asn Tyr Gly Glu Ile Val Ile Lys His Asn Lys Ile Ile  
100 105 110

Leu Asn Pro Lys Glu Asp Glu Ile Glu Asn Cys Asp Tyr Gly Phe Ser  
115 120 125

Gly Phe Phe Val Leu Ile Lys Asn Gly Lys Tyr Lys Lys Asn Phe Lys  
130 135 140

Glu Thr Arg His Pro Arg Thr Ile Ile Gly Thr Asp Lys Asn Asn Lys

145	150	155	160
His Leu Phe Leu Val Thr Ile Glu Gly Arg Gly Val Asn Asn Ser Lys			
	165	170	175
Gly Ala Ser Leu Asn Glu Ala Ile Asp Phe Ala Leu Ser Tyr Gly Met			
	180	185	190
Thr Asn Ala Ile Asn Leu Asp Gly Gly Gly Ser Ser Thr Leu Val Val			
	195	200	205
Lys Ser Asn Asn Ala Pro Tyr Lys Leu Asn Phe Thr Ala Asn Ile Phe			
	210	215	220
Gly Gln Glu Arg Pro Val Pro Phe His Leu Gly Ile Lys Leu Pro Asn			
225	230	235	240

<210> 302  
 <211> 783  
 <212> DNA  
 <213> Homo sapiens

<400> 302  
 atgaataaaa aaatattaac actgctagta ttgattttta gtatttcctc agtactaatg 60  
 ctgtccaaat caatcaccaa aaaatccaaa tacaaaatta ttagggatta tttcataaac 120  
 agcaattatg ttctgggtgaa aattgaaaat aaagatctaa aatttaccat atcaaaacct 180  
 atttacgaca aaaagctaaa taattacttc tttaaaggcc aaacaacaag ccattttctta 240  
 attttctaaca atgttgacat tgcaattaac acaagtccat acgaagttaa acaaaacatg 300  
 tttttcccaa aaggactata catatataat aaaaaaatga tttcaaaaaca aataaataac 360  
 tacggagaga ttgtaataaa gcacaacaaa attatattaa atcccaagga agacgaaata 420  
 gaaaactgcg attatggatt tagcggattt tttgttttaa tcaaaaacgg aaagtataaa 480  
 aaaaatttta aagaaacaag gcacccaaga acaataatag gaactgataa aaataacaag 540  
 cattttatttc ttgttacaat agaaggaagg ggtgtcaata atagcaaagg ggcctctctt 600  
 aatgaagcta ttgattttgc attaagctac ggcattgacta acgctattaa tctagacggg 660  
 gggggctcaa gcactcttgt tgtaaaatca aataacgctc cttacaaatt aaacttcaca 720  
 gcaaacatct ttggacagga aagacctgtc ccatttcatt taggaataaa acttcctaact 780  
 tga 783

<210> 303  
 <211> 723  
 <212> DNA  
 <213> Homo sapiens

<400> 303  
 ctgtccaaat caatcaccaa aaaatccaaa tacaaaatta ttagggatta tttcataaac 60  
 agcaattatg ttctgggtgaa aattgaaaat aaagatctaa aatttaccat atcaaaacct 120  
 atttacgaca aaaagctaaa taattacttc tttaaaggcc aaacaacaag ccattttctta 180  
 attttctaaca atgttgacat tgcaattaac acaagtccat acgaagttaa acaaaacatg 240  
 tttttcccaa aaggactata catatataat aaaaaaatga tttcaaaaaca aataaataac 300  
 tacggagaga ttgtaataaa gcacaacaaa attatattaa atcccaagga agacgaaata 360  
 gaaaactgcg attatggatt tagcggattt tttgttttaa tcaaaaacgg aaagtataaa 420  
 aaaaatttta aagaaacaag gcacccaaga acaataatag gaactgataa aaataacaag 480  
 cattttatttc ttgttacaat agaaggaagg ggtgtcaata atagcaaagg ggcctctctt 540  
 aatgaagcta ttgattttgc attaagctac ggcattgacta acgctattaa tctagacggg 600  
 gggggctcaa gcactcttgt tgtaaaatca aataacgctc cttacaaatt aaacttcaca 660

gcaaacatct ttggacagga aagacctgtc ccatttcatt taggaataaaa acttcctaata 720  
tga 723

<210> 304

<211> 237

<212> PRT

<213> Homo sapiens

<400> 304

Met Gln Leu Leu Lys Asn Lys Tyr Pro Phe Lys Arg Ala Leu Leu Asp  
1 5 10 15

Leu Phe Leu Val Tyr Ala Ile Val Tyr Leu Ala Ser Pro Phe Val Asn  
20 25 30

Val Asn Ser Glu Phe Trp Asn Val Asp Glu Asn His Phe Tyr Phe Trp  
35 40 45

Ile Ser Arg Ser Phe Leu Ile Ile Phe Ile Ile Tyr Phe Phe Lys Leu  
50 55 60

Thr Ser Ser Tyr Asp Asp Phe Arg Val Glu Phe Phe Ile Pro Lys Phe  
65 70 75 80

Lys Phe Ile Phe Leu Trp Asp Ser Val Leu Ile Phe Ile Lys Thr Ile  
85 90 95

Leu Ile Ala Met Ile Val Ile Phe Leu Ile Ala Phe Leu Leu Glu Tyr  
100 105 110

Leu Leu Pro Glu Ser Val Leu Val Tyr Tyr Phe Gln Asn Asn Ala Gly  
115 120 125

Phe Asn Trp Lys Ile Ser Ser Lys Lys Ala Phe Phe Leu Met Thr Phe  
130 135 140

Thr Ser Phe Phe Thr Gly Ala Phe Glu Glu Leu Phe Tyr Arg Ala Phe  
145 150 155 160

Val Ile Thr Lys Phe Thr Gln Met Gly Phe Pro Val Val Ala Thr Ala  
165 170 175

Ile Leu Ser Ser Met Phe Phe Ala Tyr Gly His Leu Tyr Tyr Gly Ile  
180 185 190

Leu Gly Phe Leu Val Thr Phe Ile Leu Gly Ile Phe Phe Ala Phe Thr  
195 200 205

Tyr Leu Arg Tyr Lys Asn Val Tyr Tyr Val Ile Phe Ile His Ser Phe  
210 215 220

Tyr Asn Ile Ile Val Ser Ser Leu Leu Leu Phe Leu Asn  
225 230 235

<210> 305

<211> 204

<212> PRT

<213> Homo sapiens

&lt;400&gt; 305

Asn Ser Glu Phe Trp Asn Val Asp Glu Asn His Phe Tyr Phe Trp Ile  
 1 5 10 15

Ser Arg Ser Phe Leu Ile Ile Phe Ile Ile Tyr Phe Phe Lys Leu Thr  
 20 25 30

Ser Ser Tyr Asp Asp Phe Arg Val Glu Phe Phe Ile Pro Lys Phe Lys  
 35 40 45

Phe Ile Phe Leu Trp Asp Ser Val Leu Ile Phe Ile Lys Thr Ile Leu  
 50 55 60

Ile Ala Met Ile Val Ile Phe Leu Ile Ala Phe Leu Leu Glu Tyr Leu  
 65 70 75 80

Leu Pro Glu Ser Val Leu Val Tyr Tyr Phe Gln Asn Asn Ala Gly Phe  
 85 90 95

Asn Trp Lys Ile Ser Ser Lys Lys Ala Phe Phe Leu Met Thr Phe Thr  
 100 105 110

Ser Phe Phe Thr Gly Ala Phe Glu Glu Leu Phe Tyr Arg Ala Phe Val  
 115 120 125

Ile Thr Lys Phe Thr Gln Met Gly Phe Pro Val Val Ala Thr Ala Ile  
 130 135 140

Leu Ser Ser Met Phe Phe Ala Tyr Gly His Leu Tyr Tyr Gly Ile Leu  
 145 150 155 160

Gly Phe Leu Val Thr Phe Ile Leu Gly Ile Phe Phe Ala Phe Thr Tyr  
 165 170 175

Leu Arg Tyr Lys Asn Val Tyr Tyr Val Ile Phe Ile His Ser Phe Tyr  
 180 185 190

Asn Ile Ile Val Ser Ser Leu Leu Leu Phe Leu Asn  
 195 200

&lt;210&gt; 306

&lt;211&gt; 714

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 306

atgcaattgt taaaaaataa atatccattc aagcgggctt tgcttgatct ttttttggtc 60  
 tatgctattg tttatttggc atctcctttt gttaaagtta attcagaatt ttggaatggt 120  
 gatgaaaatc atttttatct ttggatttca agatcttttt taattatctt tataatctat 180  
 ttttttaaac ttaccagttc ttatgatgat tttagagtag agttttttat tcctaaattt 240  
 aaatttatct ttctttggga ttctgtttta atttttatta aaacaatatt gattgcaatg 300  
 atagtcattt ttttaatagc ttttttgctt gaatatttgt tgccagaatc ggtacttgct 360  
 tattattttc aaaacaatgc tggatttaat tggaagatta gcagtaaaaa agcatttttt 420  
 ttaatgactt ttacctcttt ttttacagga gcttttgaag aactttttta cagggctttt 480  
 gttattacta agtttacaca aatgggattt cctgtttag ctaccgccat tcttagtagt 540  
 atgttttttg cttatgggca tttatattat ggaatttttag gatttttggt tacatttata 600  
 ttagggatat tttttgcttt tacttattta aggtataaaa atgtatatta tgtgattttt 660



atacatagtt tttataatat tattgttagc agcttggtgc tttttttgaa ttaa 714

<210> 307

<211> 615

<212> DNA

<213> Homo sapiens

<400> 307

aattcagaat tttggaatgt tgatgaaaaat cattttttatt tttggatttc aagatctttt 60  
 ttaattattt ttataattta tttttttaaa cttaccagtt cttatgatga ttttagagta 120  
 gagtttttta ttcctaaatt taaattttatt tttctttggg attctgtttt aattttttatt 180  
 aaaacaatat tgattgcaat gatagtcatt tttttaatag ctttttttgc tgaatatttg 240  
 ttgccagaat cgggtactgt ctattatttt caaaacaatg ctggatttaa ttggaagatt 300  
 agcagtaaaa aagcattttt tttaatgact tttacctctt tttttacagg agctttttgaa 360  
 gaactttttt acagggcttt tgttattact aagttttacac aaatgggatt tcctgttgta 420  
 gctaccgcca ttccttagtag tatgtttttt gcttatgggc atttatatta tggaatttta 480  
 ggattttttg ttacatttat attagggata ttttttgctt ttacttattt aaggtataaa 540  
 aatgtatatt atgtgatttt tatacatagt ttttataata ttattgtag cagcttggtg 600  
 ctttttttga attaa 615

<210> 308

<211> 181

<212> PRT

<213> Homo sapiens

<400> 308

Met Lys Lys Tyr Leu Phe Phe Ile Leu Phe Leu Ile Ser Ser Asn Asn  
 1 5 10 15  
 Leu Ile Val Ser Tyr Pro Leu Ser Phe Gly Gly Gly Phe Ser Tyr Gln  
 20 25 30  
 Phe Thr Asn Tyr Thr Asp Lys Thr Gly Ala Thr Lys Phe Ala Pro Asn  
 35 40 45  
 Phe Thr Arg Ala Asp His Gly Ile Asn Leu Asn Leu Phe Phe Asp Ala  
 50 55 60  
 Asn Tyr Val Leu Phe Glu Met Ser Tyr Lys Glu Ala Phe Val Val Thr  
 65 70 75 80  
 His Asn Gly Arg Tyr Phe Ser Leu Gly Leu Tyr Gly Thr Tyr Pro Met  
 85 90 95  
 Val Phe Lys Glu Gln Val Arg Met Leu Phe Pro Leu Ile Gly Phe Lys  
 100 105 110  
 Tyr Ala Phe Asp Leu Ser Ser Asn Asn Phe Asn Leu Phe Phe Leu Ser  
 115 120 125  
 Met Gly Leu Ala Ala Asp Leu Phe Ile Pro Asp Leu Asp Gly Leu Tyr  
 130 135 140  
 Ile Arg Pro Leu Phe Met Leu Ser Ile Ser Pro Phe Ser Asn Tyr Lys  
 145 150 155 160  
 Asn Phe Ser Gly Leu Thr Thr Glu Ile Met Leu Gly Phe Asn Ile Gly  
 165 170 175

Trp Arg Phe Phe Asn  
180

<210> 309  
<211> 164  
<212> PRT  
<213> Homo sapiens

<400> 309  
Ile Val Ser Tyr Pro Leu Ser Phe Gly Gly Gly Phe Ser Tyr Gln Phe  
1 5 10 15

Thr Asn Tyr Thr Asp Lys Thr Gly Ala Thr Lys Phe Ala Pro Asn Phe  
20 25 30

Thr Arg Ala Asp His Gly Ile Asn Leu Asn Leu Phe Phe Asp Ala Asn  
35 40 45

Tyr Val Leu Phe Glu Met Ser Tyr Lys Glu Ala Phe Val Val Thr His  
50 55 60

Asn Gly Arg Tyr Phe Ser Leu Gly Leu Tyr Gly Thr Tyr Pro Met Val  
65 70 75 80

Phe Lys Glu Gln Val Arg Met Leu Phe Pro Leu Ile Gly Phe Lys Tyr  
85 90 95

Ala Phe Asp Leu Ser Ser Asn Asn Phe Asn Leu Phe Phe Leu Ser Met  
100 105 110

Gly Leu Ala Ala Asp Leu Phe Ile Pro Asp Leu Asp Gly Leu Tyr Ile  
115 120 125

Arg Pro Leu Phe Met Leu Ser Ile Ser Pro Phe Ser Asn Tyr Lys Asn  
130 135 140

Phe Ser Gly Leu Thr Thr Glu Ile Met Leu Gly Phe Asn Ile Gly Trp  
145 150 155 160

Arg Phe Phe Asn

<210> 310  
<211> 546  
<212> DNA  
<213> Homo sapiens

<400> 310  
atgaagaaat atctttttttt tatttttattt ctcattctctt ctaataattt aattgtttct 60  
tatccacttt ctttttggtg aggtttttct tatcaattta ctaattatac tgataaaaaca 120  
ggcgccacta aatttgctcc aaattttacc agagcagatc atgggattaa tttgaattta 180  
ttttttgatg caaattatgt actttttgaa atgtcttaca aagaggcttt tgttgttact 240  
cacaatggga gatatttctc gcttgggctt tatggaacat atccaatggg tttcaaagag 300  
caggttagaa tgcttttccc attaattggg tttaaatatg cttttgattt aagctctaata 360  
aacttcaatc tctttttttt aagcatgggg cttgctgctg atctttttat tcccgatctt 420  
gatggtttat atattaggcc tttgtttatg ctttctattt ctccattttc taattataaa 480  
aatttttctg ggtaacaac tgagattatg cttggattta atatcggttg gagatttttc 540

aattag

546

&lt;210&gt; 311

&lt;211&gt; 495

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 311

```

attgtttctt atccactttc ttttggtgga ggtttttctt atcaatttac taattatact 60
gataaaacag gcgccactaa atttgctcca aattttacca gagcagatca tgggattaat 120
ttgaatttat tttttgatgc aaattatgta ctttttgaaa tgtcttaca agaggctttt 180
gttggttactc acaatgggag atatttctcg cttgggcttt atggaacata tccaatggtt 240
ttcaaagagc aggttagaat gcttttccca ttaattgggt ttaaataatgc ttttgattta 300
agctctaata acttcaatct ctttttttta agcatggggc ttgctgctga tctttttatt 360
cccgatcttg atggtttata tattaggcct ttgtttatgc tttctatttc tccattttct 420
aattataaaa atttttctgg gttaacaact gagattatgc ttggatttaa tatcggttgg 480
agatttttca attag                                     495

```

&lt;210&gt; 312

&lt;211&gt; 349

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 312

```

Met Lys Gln Lys Tyr Glu Asn Tyr Phe Lys Lys Arg Leu Ile Leu Asn
  1              5              10              15

```

```

Leu Leu Ile Phe Leu Leu Leu Ala Cys Ser Ser Glu Ser Ile Phe Ser
      20              25              30

```

```

Gln Leu Gly Asn Leu Gln Lys Ile Lys His Glu Tyr Asn Ile Leu Gly
      35              40              45

```

```

Ser Ser Ser Pro Arg Gly Ile Ser Leu Val Gly Glu Thr Leu Tyr Ile
      50              55              60

```

```

Ala Ala Met His Leu Phe Lys Lys Glu Asn Gly Lys Ile Glu Lys Ile
      65              70              75              80

```

```

Asp Leu Ser Asn Ser Tyr Glu Phe Ile Asn Asp Ile Val Asn Ile Ser
      85              90              95

```

```

Gly Lys Thr Tyr Leu Leu Ala Gln Asn Lys Glu Glu Glu Leu Glu Val
      100              105              110

```

```

Cys Glu Leu Asn Gly Lys Asp Trp Thr Leu Lys Phe Lys Lys Pro Leu
      115              120              125

```

```

Lys Ala Tyr Lys Phe Leu Lys Ser Val Gly Arg Asp Gly Val Lys Glu
      130              135              140

```

```

Ala Tyr Ile Leu Ala Ile Asp Lys Asn Asn Arg Glu Lys Ile Phe Asp
      145              150              155              160

```

```

Leu Gln Gly Ser Asp Lys Thr Pro Pro Gln Ala Thr Glu Asn Asp Lys
      165              170              175

```

```

Phe Tyr Gln Ile Ser Asn Glu Glu Asn Leu Ile Thr Gly Asn Ser Leu

```

180										185										190										
Lys	Ile	Trp	Gln	Met	Asn	Asn	Asn	Thr	Tyr	Thr	Asn	Ile	Asp	Tyr	Gln															
		195					200					205																		
Gln	Ala	Lys	Glu	Ile	Met	Pro	Ile	Ile	Lys	Thr	Ser	Ile	Arg	Gly	Ser															
	210					215						220																		
Ser	Glu	Val	Leu	Val	Met	Thr	Gly	Gly	Tyr	Asn	Asn	Leu	Asp	Thr	Lys															
	225				230					235					240															
Phe	Lys	Val	Tyr	Ser	Asn	Thr	Asn	Asn	Tyr	Thr	Thr	Pro	Ile	Phe	Ile															
				245					250					255																
Gln	Asp	Glu	Val	Gly	Glu	Phe	Ser	Ser	Tyr	Phe	Ala	Arg	Glu	Phe	Asn															
			260					265					270																	
Asp	Ala	Ile	Leu	Ile	Gly	Ser	Asn	Asn	Gly	Phe	Ala	Glu	Phe	Thr	Lys															
		275					280					285																		
Asn	Lys	Glu	Gly	Ile	Phe	Ala	Leu	Arg	Ala	Pro	Ser	Lys	Ser	Val	Glu															
		290				295					300																			
Pro	Gly	Ala	Tyr	Asn	Gly	Ser	Gln	Leu	Ser	Lys	Thr	Gly	Leu	Asn	Asp															
	305				310					315				320																
Ile	Ile	Pro	Val	Ser	Asn	Asn	Thr	Ile	Tyr	Ile	Leu	Thr	Gln	Gly	Lys															
				325					330					335																
Gly	Leu	Trp	Lys	Leu	Glu	Asn	Arg	Lys	Leu	Thr	Lys	Glu																		
			340					345																						
<210> 313																														
<211> 325																														
<212> PRT																														
<213> Homo sapiens																														
<400> 313																														
Cys	Ser	Ser	Glu	Ser	Ile	Phe	Ser	Gln	Leu	Gly	Asn	Leu	Gln	Lys	Ile															
1				5					10					15																
Lys	His	Glu	Tyr	Asn	Ile	Leu	Gly	Ser	Ser	Ser	Pro	Arg	Gly	Ile	Ser															
			20					25					30																	
Leu	Val	Gly	Glu	Thr	Leu	Tyr	Ile	Ala	Ala	Met	His	Leu	Phe	Lys	Lys</															

Val Gly Arg Asp Gly Val Lys Glu Ala Tyr Ile Leu Ala Ile Asp Lys  
 115 120 125  
 Asn Asn Arg Glu Lys Ile Phe Asp Leu Gln Gly Ser Asp Lys Thr Pro  
 130 135 140  
 Pro Gln Ala Thr Glu Asn Asp Lys Phe Tyr Gln Ile Ser Asn Glu Glu  
 145 150 155 160  
 Asn Leu Ile Thr Gly Asn Ser Leu Lys Ile Trp Gln Met Asn Asn Asn  
 165 170 175  
 Thr Tyr Thr Asn Ile Asp Tyr Gln Gln Ala Lys Glu Ile Met Pro Ile  
 180 185 190  
 Ile Lys Thr Ser Ile Arg Gly Ser Ser Glu Val Leu Val Met Thr Gly  
 195 200 205  
 Gly Tyr Asn Asn Leu Asp Thr Lys Phe Lys Val Tyr Ser Asn Thr Asn  
 210 215 220  
 Asn Tyr Thr Thr Pro Ile Phe Ile Gln Asp Glu Val Gly Glu Phe Ser  
 225 230 235 240  
 Ser Tyr Phe Ala Arg Glu Phe Asn Asp Ala Ile Leu Ile Gly Ser Asn  
 245 250 255  
 Asn Gly Phe Ala Glu Phe Thr Lys Asn Lys Glu Gly Ile Phe Ala Leu  
 260 265 270  
 Arg Ala Pro Ser Lys Ser Val Glu Pro Gly Ala Tyr Asn Gly Ser Gln  
 275 280 285  
 Leu Ser Lys Thr Gly Leu Asn Asp Ile Ile Pro Val Ser Asn Asn Thr  
 290 295 300  
 Ile Tyr Ile Leu Thr Gln Gly Lys Gly Leu Trp Lys Leu Glu Asn Arg  
 305 310 315 320  
 Lys Leu Thr Lys Glu  
 325

&lt;210&gt; 314

&lt;211&gt; 1050

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 314

atgaaacaaa aatacgaaaa ctatttttaaa aaaagattaa ttttaaacct attaatatatt 60  
 ttactactag catgctcaag cgaatccata ttttcacaaat taggaaatct gcaaaaaata 120  
 aaacatgaat acaatatattt gggcagttca agtccaagag gaattttctct agtaggagaa 180  
 actctctaca ttgcagccat gcattttattt aaaaaagaaa acggcaagat tgaaaaaatt 240  
 gatttgagca attcttatga gttttataaac gacattgtaa atatatctgg aaaaacctat 300  
 ctttttagcgc aaaacaaaga agaagaatta gaagtttgcg agctaaatgg aaaagattgg 360  
 acattaaaat ttaaaaaacc gctaaaagca tataaattct taaaatccgt aggaagagat 420  
 ggcgtaaaag aagcatatat tttagctata gataaaaata atcgtgagaa aatttttgat 480  
 ctacaaggat ctgacaaaac accaccacaa gctactgaaa atgacaaatt ttatcaaata 540

```

tcaaatagaag aaaacttaat tacaggaaat tcactcaaaa tatggcaaat gaataacaat 600
acatacacaa acatagacta tcaacaggcc aaagaaataa tgcctatcat taaaacaagc 660
attaggggct cttctgaagt tttagtaatg actggtgggtt acaataattt agatacaaaa 720
tttaaagttt actcaaatac aaataattac acaacgccaa tttttattca agacgaagta 780
ggcgaattta gcagctactt tgcaagagaa tttaatgatg cgatattaat cggaagtaat 840
aatggatttg cagaattttac aaaaaataaa gaaggatttt ttgccctacg ggcaccctca 900
aaatctgtag aacctggagc ttataacgga tctcagctaa gcaaaacagg ccttaatgat 960
attattcctg tatcaacaa cagattttac atattaactc agggcaaggg tttgtggaaa 1020
ttggaaaaca gaaaattaac taaagaataa 1050

```

&lt;210&gt; 315

&lt;211&gt; 978

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 315

```

tgctcaagcg aatccatatt ttcacaatta ggaaatctgc aaaaaataaa acatgaatac 60
aatatttttg gcagttcaag tocaagagga atttctctag taggagaaac tctctacatt 120
gcagccatgc atttatttaa aaaagaaaac ggcaagattg aaaaaattga tttgagcaat 180
tcttatgagt ttataaacga cattgtaaat atatctggaa aaacctatct tttagcgcaa 240
aacaagaag aagaattaga agtttgcgag ctaaattggaa aagattggac attaaaattt 300
aaaaaacgc taaaagcata taaattctta aaatccgtag gaagagatgg cgtaaaagaa 360
gcataatatt tagctataga taaaaataat cgtgagaaaa tttttgatct acaaggatct 420
gacaaaacac caccacaagc tactgaaat gacaaatttt atcaaatatc aaatgaagaa 480
aacttaatta caggaaattc actcaaaata tggcaaatga ataacaatac atacacaaac 540
atagactatc aacaggccaa agaaataatg cctatcatta aaacaagcat taggggctct 600
tctgaagttt tagtaatgac tgggtggttac aataatttag atacaaaatt taaagtttac 660
tcaaatacaa ataattacac aacgccaaata tttattcaag acgaagtagg cgaatttagc 720
agctactttg caagagaatt taatgatgcg atattaatcg gaagtaataa tggatttgca 780
gaattttacaa aaaataaaga aggaattttt gccctacggg caccctcaaa atctgtagaa 840
cctggagctt ataacggatc tcagctaagc aaaacaggcc ttaatgatat tattcctgta 900
tcaaacaaca cgattttacat attaaactcg ggcaagggtt tgtggaaatt ggaaaacaga 960
aaattaacta aagaataa 978

```

&lt;210&gt; 316

&lt;211&gt; 217

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 316

```

Met Gln Ser Gly Leu Lys Ile Lys Leu Ile Leu Phe Phe Cys Cys Phe
  1             5             10             15

```

```

Ala Cys Ser Cys Asp Ile Asn Tyr Pro Glu Ile Lys Glu Leu Asp Tyr
  20             25             30

```

```

Lys Ile Asn Tyr Tyr Phe Thr Glu Asn Arg Leu Asp Tyr Ser Met Ser
  35             40             45

```

```

Phe Asp Phe Ala Ile Lys Val Ile Asn Ser Lys Asp Val Phe Lys Leu
  50             55             60

```

```

Ser Ile Glu Asn Lys Asn Thr Asn Glu Phe Ile Gln Val Ile Asn Asn
  65             70             75             80

```

```

Asn Tyr Ser Ser Phe Phe Ile Asp Ser Ser Leu Gly Lys Asp Ile Leu
  85             90             95

```

Tyr Cys Lys Asp Leu Arg Phe Asn Phe Phe Asp Lys Thr Phe Glu Asp  
 100 105 110  
 Phe Thr Ser Cys Val Arg Leu Phe Asp Lys Gly Met Arg Val Tyr Asn  
 115 120 125  
 Arg Glu Leu Val Ile Ser Leu Gly Met Ser Lys Tyr Asp Leu Asp Asp  
 130 135 140  
 Val His Asn Tyr Val Tyr Lys Ser Lys Asp Met Glu Met Leu Asn Lys  
 145 150 155 160  
 Leu Ser Asn Ser Lys Val Phe Phe Val Lys Thr Tyr Lys Asp Lys Leu  
 165 170 175  
 His Pro Val Ser Ser Val Val Arg Ile Asp Ser Ile Asp Ile Leu Glu  
 180 185 190  
 Ile Asp Lys Ala Phe Asp Asn Tyr Ile Ser Phe Tyr Tyr Val Glu Lys  
 195 200 205  
 Asn Ser Asn Leu Phe Phe Lys Val Gly  
 210 215  
 <210> 317  
 <211> 204  
 <212> PRT  
 <213> Homo sapiens  
 <400> 317  
 Cys Cys Phe Ala Cys Ser Cys Asp Ile Asn Tyr Pro Glu Ile Lys Glu  
 1 5 10 15  
 Leu Asp Tyr Lys Ile Asn Tyr Tyr Phe Thr Glu Asn Arg Leu Asp Tyr  
 20 25 30  
 Ser Met Ser Phe Asp Phe Ala Ile Lys Val Ile Asn Ser Lys Asp Val  
 35 40 45  
 Phe Lys Leu Ser Ile Glu Asn Lys Asn Thr Asn Glu Phe Ile Gln Val  
 50 55 60  
 Ile Asn Asn Asn Tyr Ser Ser Phe Phe Ile Asp Ser Ser Leu Gly Lys  
 65 70 75 80  
 Asp Ile Leu Tyr Cys Lys Asp Leu Arg Phe Asn Phe Phe Asp Lys Thr  
 85 90 95  
 Phe Glu Asp Phe Thr Ser Cys Val Arg Leu Phe Asp Lys Gly Met Arg  
 100 105 110  
 Val Tyr Asn Arg Glu Leu Val Ile Ser Leu Gly Met Ser Lys Tyr Asp  
 115 120 125  
 Leu Asp Asp Val His Asn Tyr Val Tyr Lys Ser Lys Asp Met Glu Met  
 130 135 140  
 Leu Asn Lys Leu Ser Asn Ser Lys Val Phe Phe Val Lys Thr Tyr Lys

```
<210> 318  
<211> 654  
<212> DNA  
<213> Homo sapiens
```

```
<210> 319
<211> 615
<212> DNA
<213> Homo sapiens
```

```
<210> 320
<211> 1119
<212> PRT
<213> Homo sapiens
```

```
<220>
<221> SITE
<222> (573)
<223> Xaa equals any of the naturally occurring L-amino acids
<220>
```



<221> SITE

<222> (627)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (735)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 320

Met Asn Lys Lys His Thr Asn Phe Ser Val Leu Leu Leu Leu Ile Phe  
1 5 10 15

Leu Leu Ile Leu Ser Phe Gly Gly Phe Gly Tyr Tyr Ile Tyr Gln Ser  
20 25 30

Lys Leu Asn Asp Lys Asn Arg Glu Ile Met Leu Asn Glu Val Lys Asn  
35 40 45

Ser Val Ile Asp Arg Asn Tyr Lys Lys Ala Tyr Ser Val Ala Lys Leu  
50 55 60

Leu Gln Asp Lys Tyr Pro Gln Asn Glu Asp Ile Ala Met Leu Thr Asn  
65 70 75 80

Thr Leu Ala Glu Ile Ala Asn Ser Ser Pro Phe Glu Ser Lys Asp Leu  
85 90 95

Gln Arg Asp Ser Ala Asn Gln Ile Leu Asp Lys Ile Lys Gly Gln Asp  
100 105 110

Asn Thr Lys Thr Asn Val Asn Glu Asn Phe Asp Ile Ala Phe Asn Asn  
115 120 125

Arg Tyr Ile Lys Asp Ser Thr Ile Thr Glu Asn Tyr Ser Asp Arg Asn  
130 135 140

Asp Asp Val Gly Ile Glu Asp Glu Asp Ile Ser Glu Phe Lys Lys Ser  
145 150 155 160

Lys Ile Pro Glu Lys Ile Lys Pro Asn Thr Asn Pro Lys Glu Glu Asp  
165 170 175

Gln Ile Ile Gln Ser Pro Asn Pro Lys Leu Ser Val Asn Asp Gln Lys  
180 185 190

Asn Leu Phe Asn Leu Glu Lys Leu Lys Lys Asn Leu Ser Gly Lys Ser  
195 200 205

Asn Ser Glu Asn Ile Leu Asn Asp Ser Gln Lys Ile Glu Asn Asp Lys  
210 215 220

Gln Asn Thr Asn Leu Ser Lys Glu Lys Asn Ser Glu Asn Ile Leu Lys  
225 230 235 240

Thr Pro Asp Asn Ser Lys Tyr Ser Asn Asn Asn Thr Thr Ser Leu  
245 250 255

Lys Lys Ile Ser Ser Asn Ser Gln Lys Glu Ser Glu Leu Ser Pro Pro  
 260 265 270  
 Ser Gln Thr Ile Ile Gly Lys Ile Tyr Arg Pro Tyr Ser Tyr Leu Ile  
 275 280 285  
 Lys Lys Glu Leu Tyr Glu Ile Leu Asp Asp Ile Asn Thr Gly Arg Val  
 290 295 300  
 Thr Leu Gly Lys Asn Arg Leu Lys Glu Leu Ile Lys Lys Gly Leu Ser  
 305 310 315 320  
 Asn Lys Phe Gln Lys Val Asn Glu Leu Ile Glu Asn Ser Lys Asn Lys  
 325 330 335  
 Glu Ala Ser Asn Leu Leu Leu Thr Leu Ile Lys Lys Asp Ile Glu Pro  
 340 345 350  
 Asn Leu Ile Asn Ile Pro Lys Asp Pro Tyr Lys Lys Glu Ile Phe Gln  
 355 360 365  
 Leu Asp Lys Glu Asp Lys Lys Pro Gln Tyr Leu Glu Asp Leu Lys Ser  
 370 375 380  
 Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg  
 385 390 395 400  
 Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn  
 405 410 415  
 Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile Gln His  
 420 425 430  
 Leu Glu Asp Leu Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu  
 435 440 445  
 Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe  
 450 455 460  
 Leu Lys Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln  
 465 470 475 480  
 Ala Asn Lys Ile Gln His Leu Glu Asp Leu Lys Ser Lys Val His Ser  
 485 490 495  
 Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile  
 500 505 510  
 Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn Asp Ala Gln Ala  
 515 520 525  
 Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile Gln His Leu Glu Asp Leu  
 530 535 540  
 Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys  
 545 550 555 560  
 Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Xaa Lys Asn Asn

	565		570		575
Pro Asn Asp	Ala Gln Ala Ser Lys Thr	Leu Ala Gln Ala	Asn Lys Ile		
	580		585		590
Gln His Leu	Glu Asp Leu Lys Ser	Lys Val His Ser	Ile Lys Pro Ile		
	595		600		605
Asp Leu Glu	Asn Thr Lys Ser Arg	Gln Gln Ala Ile	Lys Asp Leu Asn		
	610		615		620
Glu Phe Xaa	Lys Asn Asn Pro Asn	Asp Ala Gln Ala Ser	Lys Thr Leu		
	625		630		635
Ala Gln Ala	Asn Lys Ile Gln His	Leu Glu Asp Leu	Lys Ser Lys Val		
	645		650		655
His Ser Ile	Lys Pro Ile Asp Leu	Glu Asn Thr Lys	Ser Arg Gln Gln		
	660		665		670
Ala Ile Lys	Asp Leu Asn Glu Phe	Leu Lys Asn Asn	Pro Asn Asp Ala		
	675		680		685
Gln Ala Ser	Lys Thr Leu Ala Gln	Ala Asn Lys Ile	Gln His Leu Glu		
	690		695		700
Asp Leu Lys	Ser Lys Val His Ser	Ile Lys Pro Ile	Asp Leu Glu Asn		
	705		710		715
Thr Lys Ser	Arg Gln Gln Ala Ile	Lys Asp Leu Asn	Glu Phe Xaa Lys		
	725		730		735
Asn Asn Pro	Asn Asp Ala Gln Ala	Ser Lys Thr Leu	Ala Gln Ala Tyr		
	740		745		750
Glu Asn Asn	Gly Asp Leu Leu Lys	Ala Glu Asn Ala	Tyr Glu Lys Ile		
	755		760		765
Ile Lys Leu	Thr Asn Thr Gln Glu	Asp His Tyr Lys	Leu Gly Ile Ile		
	770		775		780
Arg Phe Lys	Leu Lys Lys Tyr Glu	His Ser Ile Glu	Ser Phe Asp Gln		
	785		790		795
Thr Ile Lys	Leu Asp Pro Lys His	Lys Lys Ala Leu	His Asn Lys Gly		
	805		810		815
Ile Ala Leu	Met Met Leu Asn Lys	Asn Lys Lys Ala	Ile Glu Ser Phe		
	820		825		830
Glu Lys Ala	Ile Gln Ile Asp Lys	Asn Tyr Gly Thr	Ala Tyr Tyr Gln		
	835		840		845
Lys Gly Ile	Ala Glu Glu Lys Asn	Gly Asp Met Gln	Gln Ala Phe Ala		
	850		855		860
Ser Phe Lys	Asn Ala Tyr Asn Leu	Asp Lys Asn Pro	Asn Tyr Ala Leu		
	865		870		875
					880

Lys Ala Gly Ile Val Ser Asn Asn Leu Gly Asn Phe Lys Gln Ser Glu  
 885 890 895  
 Glu Tyr Leu Asn Phe Phe Asn Ala Asn Ala Lys Lys Pro Asn Glu Ile  
 900 905 910  
 Ala Ile Tyr Asn Leu Ser Ile Ala Lys Phe Glu Asn Asn Lys Leu Glu  
 915 920 925  
 Glu Ser Leu Glu Thr Ile Asn Lys Ala Ile Asp Leu Asn Pro Glu Lys  
 930 935 940  
 Ser Glu Tyr Leu Tyr Leu Lys Ala Ser Ile Asn Leu Lys Lys Glu Asn  
 945 950 955 960  
 Tyr Gln Asn Ala Ile Ser Leu Tyr Ser Leu Val Ile Glu Lys Asn Pro  
 965 970 975  
 Glu Asn Thr Ser Ala Tyr Ile Asn Leu Ala Lys Ala Tyr Glu Lys Ser  
 980 985 990  
 Gly Asn Lys Ser Gln Ala Ile Ser Thr Leu Glu Lys Ile Ile Asn Lys  
 995 1000 1005  
 Asn Asn Lys Leu Ala Leu Asn Asn Leu Gly Ile Leu Tyr Lys Lys Glu  
 1010 1015 1020  
 Lys Asn Tyr Gln Lys Ala Ile Glu Ile Phe Glu Lys Ala Ile Ile Asn  
 025 1030 1035 1040  
 Ser Asp Ile Glu Ala Lys Tyr Asn Leu Ala Thr Thr Leu Ile Glu Ile  
 1045 1050 1055  
 Asn Asp Asn Thr Arg Ala Lys Asp Leu Leu Arg Glu Tyr Thr Lys Leu  
 1060 1065 1070  
 Lys Pro Asn Asn Pro Glu Ala Leu His Ala Leu Gly Ile Ile Glu Tyr  
 1075 1080 1085  
 Asn Glu Asn Asn Asn Asp Gln Thr Leu Arg Glu Leu Ile Lys Lys Phe  
 1090 1095 1100  
 Pro Asn Tyr Lys Lys Asn Glu Asn Ile Lys Lys Ile Ile Gly Ile  
 105 1110 1115

<210> 321

<211> 1087

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (541)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (595)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (703)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 321

Lys Leu Asn Asp Lys Asn Arg Glu Ile Met Leu Asn Glu Val Lys Asn  
1 5 10 15

Ser Val Ile Asp Arg Asn Tyr Lys Lys Ala Tyr Ser Val Ala Lys Leu  
20 25 30

Leu Gln Asp Lys Tyr Pro Gln Asn Glu Asp Ile Ala Met Leu Thr Asn  
35 40 45

Thr Leu Ala Glu Ile Ala Asn Ser Ser Pro Phe Glu Ser Lys Asp Leu  
50 55 60

Gln Arg Asp Ser Ala Asn Gln Ile Leu Asp Lys Ile Lys Gly Gln Asp  
65 70 75 80

Asn Thr Lys Thr Asn Val Asn Glu Asn Phe Asp Ile Ala Phe Asn Asn  
85 90 95

Arg Tyr Ile Lys Asp Ser Thr Ile Thr Glu Asn Tyr Ser Asp Arg Asn  
100 105 110

Asp Asp Val Gly Ile Glu Asp Glu Asp Ile Ser Glu Phe Lys Lys Ser  
115 120 125

Lys Ile Pro Glu Lys Ile Lys Pro Asn Thr Asn Pro Lys Glu Glu Asp  
130 135 140

Gln Ile Ile Gln Ser Pro Asn Pro Lys Leu Ser Val Asn Asp Gln Lys  
145 150 155 160

Asn Leu Phe Asn Leu Glu Lys Leu Lys Lys Asn Leu Ser Gly Lys Ser  
165 170 175

Asn Ser Glu Asn Ile Leu Asn Asp Ser Gln Lys Ile Glu Asn Asp Lys  
180 185 190

Gln Asn Thr Asn Leu Ser Lys Glu Lys Asn Ser Glu Asn Ile Leu Lys  
195 200 205

Thr Pro Asp Asn Ser Lys Tyr Ser Asn Asn Asn Asn Thr Thr Ser Leu  
210 215 220

Lys Lys Ile Ser Ser Asn Ser Gln Lys Glu Ser Glu Leu Ser Pro Pro  
225 230 235 240

Ser Gln Thr Ile Ile Gly Lys Ile Tyr Arg Pro Tyr Ser Tyr Leu Ile  
245 250 255

Lys Lys Glu Leu Tyr Glu Ile Leu Asp Asp Ile Asn Thr Gly Arg Val

260					265					270					
Thr	Leu	Gly	Lys	Asn	Arg	Leu	Lys	Glu	Leu	Ile	Lys	Lys	Gly	Leu	Ser
	275						280					285			
Asn	Lys	Phe	Gln	Lys	Val	Asn	Glu	Leu	Ile	Glu	Asn	Ser	Lys	Asn	Lys
	290					295					300				
Glu	Ala	Ser	Asn	Leu	Leu	Leu	Thr	Leu	Ile	Lys	Lys	Asp	Ile	Glu	Pro
305				310					315					320	
Asn	Leu	Ile	Asn	Ile	Pro	Lys	Asp	Pro	Tyr	Lys	Lys	Glu	Ile	Phe	Gln
			325						330					335	
Leu	Asp	Lys	Glu	Asp	Lys	Lys	Pro	Gln	Tyr	Leu	Glu	Asp	Leu	Lys	Ser
	340							345					350		
Lys	Val	His	Ser	Ile	Lys	Pro	Ile	Asp	Leu	Glu	Asn	Thr	Lys	Ser	Arg
	355						360					365			
Gln	Gln	Ala	Ile	Lys	Asp	Leu	Asn	Glu	Phe	Leu	Lys	Asn	Asn	Pro	Asn
	370					375					380				
Asp	Ala	Gln	Ala	Ser	Lys	Thr	Leu	Ala	Gln	Ala	Asn	Lys	Ile	Gln	His
385				390					395					400	
Leu	Glu	Asp	Leu	Lys	Ser	Lys	Val	His	Ser	Ile	Lys	Pro	Ile	Asp	Leu
			405					410						415	
Glu	Asn	Thr	Lys	Ser	Arg	Gln	Gln	Ala	Ile	Lys	Asp	Leu	Asn	Glu	Phe
	420						425						430		
Leu	Lys	Asn	Asn	Pro	Asn	Asp	Ala	Gln	Ala	Ser	Lys	Thr	Leu	Ala	Gln
	435					440						445			
Ala	Asn	Lys	Ile	Gln	His	Leu	Glu	Asp	Leu	Lys	Ser	Lys	Val	His	Ser
	450					455					460				
Ile	Lys	Pro	Ile	Asp	Leu	Glu	Asn	Thr	Lys	Ser	Arg	Gln	Gln	Ala	Ile
465				470					475					480	
Lys	Asp	Leu	Asn	Glu	Phe	Leu	Lys	Asn	Asn	Pro	Asn	Asp	Ala	Gln	Ala
			485					490						495	
Ser	Lys	Thr	Leu	Ala	Gln	Ala	Asn	Lys	Ile	Gln	His	Leu	Glu	Asp	Leu
	500						505						510		
Lys	Ser	Lys	Val	His	Ser	Ile	Lys	Pro	Ile	Asp	Leu	Glu	Asn	Thr	Lys
	515						520					525			
Ser	Arg	Gln	Gln	Ala	Ile	Lys	Asp	Leu	Asn	Glu	Phe	Xaa	Lys	Asn	Asn
	530					535					540				
Pro	Asn	Asp	Ala	Gln	Ala	Ser	Lys	Thr	Leu	Ala	Gln	Ala	Asn	Lys	Ile
545				550					555					560	
Gln	His	Leu	Glu	Asp	Leu	Lys	Ser	Lys	Val	His	Ser	Ile	Lys	Pro	Ile
			565						570					575	

Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn  
 580 585 590  
 Glu Phe Xaa Lys Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu  
 595 600 605  
 Ala Gln Ala Asn Lys Ile Gln His Leu Glu Asp Leu Lys Ser Lys Val  
 610 615 620  
 His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln  
 625 630 635 640  
 Ala Ile Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn Asp Ala  
 645 650 655  
 Gln Ala Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile Gln His Leu Glu  
 660 665 670  
 Asp Leu Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn  
 675 680 685  
 Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Xaa Lys  
 690 695 700  
 Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln Ala Tyr  
 705 710 715 720  
 Glu Asn Asn Gly Asp Leu Leu Lys Ala Glu Asn Ala Tyr Glu Lys Ile  
 725 730 735  
 Ile Lys Leu Thr Asn Thr Gln Glu Asp His Tyr Lys Leu Gly Ile Ile  
 740 745 750  
 Arg Phe Lys Leu Lys Lys Tyr Glu His Ser Ile Glu Ser Phe Asp Gln  
 755 760 765  
 Thr Ile Lys Leu Asp Pro Lys His Lys Lys Ala Leu His Asn Lys Gly  
 770 775 780  
 Ile Ala Leu Met Met Leu Asn Lys Asn Lys Lys Ala Ile Glu Ser Phe  
 785 790 795 800  
 Glu Lys Ala Ile Gln Ile Asp Lys Asn Tyr Gly Thr Ala Tyr Tyr Gln  
 805 810 815  
 Lys Gly Ile Ala Glu Glu Lys Asn Gly Asp Met Gln Gln Ala Phe Ala  
 820 825 830  
 Ser Phe Lys Asn Ala Tyr Asn Leu Asp Lys Asn Pro Asn Tyr Ala Leu  
 835 840 845  
 Lys Ala Gly Ile Val Ser Asn Asn Leu Gly Asn Phe Lys Gln Ser Glu  
 850 855 860  
 Glu Tyr Leu Asn Phe Phe Asn Ala Asn Ala Lys Lys Pro Asn Glu Ile  
 865 870 875 880

Ala Ile Tyr Asn Leu Ser Ile Ala Lys Phe Glu Asn Asn Lys Leu Glu  
885 890 895

Glu Ser Leu Glu Thr Ile Asn Lys Ala Ile Asp Leu Asn Pro Glu Lys  
900 905 910

Ser Glu Tyr Leu Tyr Leu Lys Ala Ser Ile Asn Leu Lys Lys Glu Asn  
915 920 925

Tyr Gln Asn Ala Ile Ser Leu Tyr Ser Leu Val Ile Glu Lys Asn Pro  
930 935 940

Glu Asn Thr Ser Ala Tyr Ile Asn Leu Ala Lys Ala Tyr Glu Lys Ser  
945 950 955 960

Gly Asn Lys Ser Gln Ala Ile Ser Thr Leu Glu Lys Ile Ile Asn Lys  
965 970 975

Asn Asn Lys Leu Ala Leu Asn Asn Leu Gly Ile Leu Tyr Lys Lys Glu  
980 985 990

Lys Asn Tyr Gln Lys Ala Ile Glu Ile Phe Glu Lys Ala Ile Ile Asn  
995 1000 1005

Ser Asp Ile Glu Ala Lys Tyr Asn Leu Ala Thr Thr Leu Ile Glu Ile  
1010 1015 1020

Asn Asp Asn Thr Arg Ala Lys Asp Leu Leu Arg Glu Tyr Thr Lys Leu  
1025 1030 1035 1040

Lys Pro Asn Asn Pro Glu Ala Leu His Ala Leu Gly Ile Ile Glu Tyr  
1045 1050 1055

Asn Glu Asn Asn Asn Asp Gln Thr Leu Arg Glu Leu Ile Lys Lys Phe  
1060 1065 1070

Pro Asn Tyr Lys Lys Asn Glu Asn Ile Lys Lys Ile Ile Gly Ile  
1075 1080 1085

<210> 322

<211> 3354

<212> DNA

<213> Homo sapiens

<400> 322

```

atgaataaaa aacatacaaa tttttcggtta ttattgcttt taattttctt acttatctta 60
tcatttgggg gctttgggta ctatatatat caaagcaaatt taaatgacaa aaatcgagaa 120
ataatgctaa acgaagttaa aaatagcgta atagatcgaa actataaaaa agcatattct 180
gttgcaaaac ttctgcaaga caaatacccc caaaatgaag acattgcaat gcttacaaat 240
acactagcag aaattgccaa cagtagtcct tttgaatcaa aagacttgca aagagattct 300
gctaatacaa tcttagacaa gatcaaagggt caagacaata caaaaacaaa tgtaaacgaa 360
aattttgata tagcatttaa taatagatac attaaagaca gcacaataac agaaaactac 420
tctgacagaa acgatgatgt tggcattgaa gatgaagaca tatctgaatt taaaaaagc 480
aaaaatcccag aaaaaataaaa accaaataca aacccaaaag aagaagacca aataatacaa 540
tctccaaatc cgaaattaag tgtaaatgac caaaaaaatt tattttaattt ggaaaaacta 600
aaaaaaaatt taagtggaaa atcaaatagt gaaaatattt taaacgattc tcaaaaaata 660
gaaaatgata agcaaaacac aaatttatcc aaagaaaaaa attcggagaa tattttaaaa 720
actccggaca acagtaaata ttcaaacaat aacaatacta catctttaa aaaaatttct 780

```



```

tcaaattccc aaaaagaaa tgagctttct ccaccagtc aaacaataat agggaaaatt 840
tataggccat atagctactt gataaaaaaa gagctctatg aaatattaga cgatattaat 900
accggaagag tcacacttgg aaaaaacaga ttaaaagaat taattaaaaa aggtctaagc 960
aacaatttc aaaaagtaaa tgaattgatt gaaaattcaa aaaataaaga agcttcaaat 1020
ttactattaa ccttaataaa aaaagatatt gaaccaaata tcattaatat accaaaagat 1080
ccttacaaaa aagaaatttt tcaattagat aaagaagaca aaaagcctca gtacctagag 1140
gaccttaaat ctaaagtcca ttcaataaaa cccattgatc ttgaaaacac aaaatcacgc 1200
caacaagcca ttaaggatct aaacgaattc ttgaaaaaca atcccaatga cgctcaggcc 1260
tctaaaactt tagctcaagc taataaaaata caacacctag aggaccttaa atctaagggt 1320
cattcaataa aacccattga tcttgaaaac acaaaatcac gccacaagc cattaaggat 1380
ctaaacgaat tcttgaaaaa caatcccaat gacgctcagg cctctaaaac tttagctcaa 1440
gctaataaaa tacaacacct agaggacctt aactctaagg ttcattcaat aaaacccatt 1500
gatcttgaaa acacaaaatc acgccaacaa gccattaagg atctaaacga attcttaaaa 1560
aacaatccca atgacgcccc ggctctctaa actttagctc aagctaataa aatacaacac 1620
ctggaggacc ttaaatctaa ggttcattca ataaaaccca ttgatcttga aaacacaaaa 1680
tcacgccaac aagccattaa ggatctaaac gaattcttaa aaacaatccc atgacgcca 1740
ggcctctaaa actttagctc aagctaataa aatacaacac ctgaggacct taaatctaa 1800
gttcattcaa taaaacccat tgatcttgaa aacacaaaat cagcgaaca agccattaag 1860
gatctaaacg aattcttaaa aacaatccca atgacgcccag gctctaaaaa ctttagctca 1920
agctaataaa atacaacacc tagaggacct taaatctaag gttcattcaa taaaacccat 1980
tgatcttgaa aacacaaaat cagcgaaca agccattaag gatctaaacg aattcttaaa 2040
aaacaatccc aatgacgccc aggcctctaa aactttagct caagctaata aatacaaca 2100
cctggaggac cttaaatcta aggttcattc aataaaaacc attgatcttg aaacacaaaa 2160
atcacgcca atagccatta aggatctaaa cgaattctta aaaacaatcc caatgacgcc 2220
caggcctcta aaactttagc tcaagcttat gaaaacaatg gagatttgct aaaagcagaa 2280
aatgcatacg aaaaaattat caaactcaca aatacccaag aagatcacta taaacttgga 2340
atcattagat tcaagcttaa aaagtatgaa cactcaatag aatcatttga tcaacaata 2400
aaactcgacc caaaacataa aaaagcactt catacaaaag gaatagcttt aatgatgcta 2460
aataaaaaaa aaaaagcaat agaacttttt gagaaagcaa tacaatttga taaaaattat 2520
ggcacccgct actacaaaaa aggaatagca gaagaaaaaa atggcgatat gcaacaagca 2580
tttgcaagct ttaaaaatgc ctacaatctc gacaaaaacc ccaattatgc attaaaagca 2640
ggaatagtat caaataactt gggcaacttc aaacaaagtg aagagtattt aaattttttt 2700
aatgccaatg caaaaaaacc taacgaaatt gctatttaca acctatcaat agcaaaattt 2760
gaaaaacaata aacttgaaga atctcttgaa acaataaaca aagccataga tttaaatcca 2820
gaaaaaagtg aatatttata tttaaaagca tctataaatc ttaaaaaaga aaattacca 2880
aatgctatat cactttacag cttagtaatt gaaaaaaacc ctgaaaatac ttcagcctat 2940
ataaacctgg caaaagcata tgaaaaatca ggaaataaaa gtcaagcaat ctcaactctt 3000
gaaaagataa taacacaaaa taataaatta gccttaaaaa atcttgggat actttacaaa 3060
aaagaaaaaa attatcaaaa agcaattgaa atttttgaaa aagcaataat caattcagat 3120
attgaagcaa aatataatct tgcaaccact ctaattgaaa ttaatgataa cacaagagct 3180
aaagaccttc taagagaata tacaaaaatta aaaccaaaca atccagaggc cttacatgca 3240
ctaggaataa tagaatataa tgaaaaataa aatgatcaaa cactaagaga acttataaaa 3300
aaatttccaa attacaaaaa aaatgaaaat attaaaaaaa taataggaat ataa 3354

```

&lt;210&gt; 323

&lt;211&gt; 3258

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 323

```

aaattaaatg acaaaaatcg agaaataatg ctaaacgaag ttaaaaatag cgtaatagat 60
cgaaactata aaaaagcata ttctgttgca aaacttctgc aagacaaata ccccaaaaat 120
gaagacattg caatgcttac aaatacacta gcagaaattg ccaacagtag tctttttgaa 180
tcaaaagact tgcaaagaga ttctgctaata caaatcttag acaagatcaa aggtcaagac 240
aatacaaaaa caaatgtaaa cgaaaatttt gatatagcat ttaataatag atacattaaa 300
gacagcacia taacagaaaa ctactctgac agaaacgatg atgttggcat tgaagatgaa 360
gacatatctg aatttataaaa aagcaaaatc ccagaaaaaa taaaaccaa tacaaaccca 420
aaagaagaag accaaataat acaatctcca aatccgaaat taagtgttaa tgaccaaaaa 480

```

```

aattttattta atttggaataa actaaaaaaa aattttaagt gaaaaatcaaa tagtgaaaaat 540
atttttaaacy atttctaaaa aatagaaaaat gataagcaaaa acacaaaattt atccaaaagaa 600
aaaaatttcgg agaatttttt aaaaactccg gacaacagta aatattcaaa caataacaat 660
actacatctt taaaaaaaat ttcttcaaat tcccaaaaag aaagtgaagt ttctccaccc 720
agtcaaaaca taataggga aattttatagg ccatatagct acttgataaa aaaagagctc 780
tatgaaatat tagacgatat taataccgga agagtccac ttggaaaaaa cagattaaaa 840
gaattaatta aaaaagggtc aagcaacaaa tttcaaaaag taaatgaatt gattgaaaaat 900
tcaaaaaata aagaagcttc aaattttacta ttaaccttaa taaaaaaaga tattgaacca 960
aatctcatta atataccaaa agatccttac aaaaaagaaa tttttcaatt agataaagaa 1020
gacaaaaagc ctgagtacct agaggacctt aaatctaaag ttcattcaat aaaaccatt 1080
gatcttgaaa acacaaaatc acgccaacaa gccattaaag atctaaacga attcttgaaa 1140
aacaatccca atgacgctca ggctctctaa acttttagctc aagctaataa aatacaacac 1200
ctagaggacc ttaaatctaa gggttcattca ataaaaccca ttgatcttga aaacacaaaa 1260
tcacgccaac aagccattaa ggatctaaac gaattcttga aaaacaatcc caatgacgct 1320
caggcctcta aaactttagc tcaagctaatt aaaatacaac acctagagg ccttaaatct 1380
aagggttcatt caataaaaacc cattgatctt gaaaaacaaa aatcacgcca acaagccatt 1440
aaggatctaa acgaattctt aaaaaacaat cccaatgacg cccaggcctc taaaacttta 1500
gctcaagcta ataaaatata acacctggag gaccttaaat ctagggttca ttcaataaaa 1560
cccattgatc ttgaaaacac aaaatcacgc caacaagcca ttaaggatct aaacgaattc 1620
ttaaaaacaa tcccaatgac gccaggcctc taaaacttta gctcaagcta ataaaatata 1680
acacctgagg accttaaatc taagggtcat tcaataaaac ccattgatct tgaaaaacaa 1740
aaatcacgcc aacaagccat taaggatcta aacgaattct taaaaacaat cccaatgacg 1800
ccaggcctct aaaactttag ctcaagctaa taaaatacaa cacctagagg accttaaatc 1860
taagggtcat tcaataaaac ccattgatct tgaaaacaca aaatcacgcc aacaagccat 1920
taaggatcta aacgaattct taaaaacaa tcccaatgac gccaggcctc taaaacttt 1980
agctcaagct aataaaatata aacacctgga ggaccttaaa tctaagggtc attcaataaa 2040
acccattgat ctgaaaaaca caaatcacg ccaacaagcc attaaggatc taaacgaatt 2100
cttaaaaaaa atcccaatga cgcccaggcc tctaaaactt tagctcaagc ttatgaaaac 2160
aatggagatt tgctaaaagc agaaaatgca tacgaaaaaa ttatcaaaact cacaataacc 2220
caagaagatc actataaaact tggaaatcatt agattcaagc ttaaaaagta tgaacactca 2280
atagaatcat ttgatcaaac aataaaactc gacccaaaaac ataaaaaagc acttcataac 2340
aaaggaatag ctttaaatgat gctaaataaa aacaaaaaag caatagaatc ttttgagaaa 2400
gcaatacaaa ttgataaaaa ttatggcacc gcctactacc aaaaaggaat agcagaagaa 2460
aaaaatggcg atatgcaaca agcatttgca agctttaaaa atgcctacaa tctcgacaaa 2520
aaccctcaatt atgcattaaa agcaggaata gtatcaataa acttgggcaa cttcaacaa 2580
agtgaagagt atttaaatct ttttaatgcc aatgcaaaaa aacctaacga aattgctatt 2640
tacaacctat caatagcaaa atttgaaaac aataaacttg aagaatctct tgaaacaata 2700
aacaagcca tagatttaaa tccagaaaaa agtgaatatt tatatttaaa agcatctata 2760
aatcttaaaa aagaaaatta ccaaaatgct atatcacttt acagcttagt aattgaaaaa 2820
aaccctgaaa atacttcagc ctatataaac ctggcaaaaag catatgaaaa atcaggaaat 2880
aaaagtcaag caatctcaac tcttgaaaag ataataaaca aaaataataa attagcctta 2940
aacaatcttg ggatacttta caaaaaagaa aaaaattatc aaaaagcaat tgaaattttt 3000
gaaaaagcaa taatcaattc agatattgaa gcaaaatata atcttgcaac cactctaatt 3060
gaaattaatg ataacacaag agctaaagac cttctaagag aatatacaaa attaaaacca 3120
aacaatccag aggccttaca tgcactagga ataatagaat ataatagaat taacaatgat 3180
caaacactaa gagaacttat aaaaaaattt ccaaattaca aaaaaaatga aaatattaaa 3240
aaaataatag gaataataa 3258

```

&lt;210&gt; 324

&lt;211&gt; 255

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 324

Met Arg Ile Tyr Leu Phe Leu Asn Lys Asn Tyr Lys Ile Phe Ile Leu  
1 5 10 15

Phe Leu Ile Leu Ile Leu Asn Ser Lys Leu Ala Tyr Ser Gln Arg Leu

```
<210> 325
<211> 228
<212> PRT
<213> Homo sapiens
```

```

<400> 325
Tyr Ser Gln Arg Leu Ile Arg Ile Gly Lys Glu Glu Met Lys Asn Lys
  1             5             10             15
Asn Tyr Ile Gln Ala Ile Glu Thr Leu Ser Asp Ala Ile Lys Lys Tyr
      20             25             30
Pro Lys Val Gln Leu Gly Tyr Tyr Phe Leu Ser Ile Ala Tyr Arg Glu
      35             40             45

```

Asn Asn Gln Leu Thr Glu Ala Glu Gly Ala Leu Leu Asp Gly Ile Ala  
50 55 60

Val Gly Gly Glu Ile Asp Tyr Ile Leu Tyr Tyr Glu Leu Gly Asn Ile  
65 70 75 80

Met Phe Asn Arg Gly Glu Gly Tyr Tyr Pro Leu Ala Ile Lys Tyr Tyr  
85 90 95

Ser Asn Ser Ile Lys Ser Arg Pro Asn Tyr Asp Ser Ala Leu Leu Asn  
100 105 110

Arg Ala Asn Ala Tyr Val Gln Gln Gly Lys Ile Thr Ser Lys Glu Lys  
115 120 125

Glu Tyr Gln Lys Ala Trp Asp Ser Tyr Thr Met Ala Ile His Asp Tyr  
130 135 140

Ser Gln Phe Ile Thr Leu Arg Ser Lys Thr Glu Lys Lys Asp Ser Ile  
145 150 155 160

Leu Leu Ile Ile Ser Tyr Leu Arg Asn Glu Lys Ile Asn Leu Glu Gln  
165 170 175

Leu Asp Lys Ser Leu Lys Gly Arg Thr Glu His Ile Val Tyr Ala Lys  
180 185 190

Glu Asp Lys Asn Gln Ile Leu Lys Asp Ser Phe Lys Asp Asn Leu Glu  
195 200 205

Thr Asn Ser Leu Ile Glu Leu Glu Lys Leu Asn Trp Gln Glu Glu Leu  
210 215 220

Tyr Ile Asp Glu  
225

<210> 326

<211> 768

<212> DNA

<213> Homo sapiens

<400> 326

atgaggattt atttatTTTT aaataaaaaat tacaagattt ttatTTTTtatt tttaatttta 60  
atattaaatt caaaattggc atattctcaa aggctaatta gaattggcaa agaagagatg 120  
aaaaacaaaa attacattca agcaatcgaa acactaagtg atgctattaa aaaatatcca 180  
aaagtacaac tcggctatta ctttttatca atagcataca gagaaaaata tcaactaaca 240  
gaagcagaag gagcattgct cgatggaatt gcagtagggg gtgaaatcga ctacatacta 300  
tattatgaat taggcaacat aatgtttaac agaggggaag gttactatcc tttagcaata 360  
aaatattatt ctaattctat taaaagtaga cctaattatg acagtgcgct actaaacaga 420  
gctaattgcct atgttcaaca gggcaaaata acttctaaag aaaaagaata ccaaaaagct 480  
tgggactctt atactatggc tatccacgac tactctcaat ttattaccct tagatcaaaa 540  
acagaaaaaa aagacagcat tttgcttata ataagctatt taagaaatga aaaaattaat 600  
cttgaacaac ttgacaaaag tttgaagggg cgaaccgagc atattgtata cgcaaaaagaa 660  
gataaaaatc aaatacttaa agatagtttt aaagacaacc tagaaacaaa ttctttaatt 720  
gagctagaaa aacttaattg gcaagaggag ttatacatag atgaataa 768

<210> 327

<211> 687  
 <212> DNA  
 <213> Homo sapiens

<400> 327  
 tattctcaaa ggctaattag aattggcaaa gaagagatga aaaacaaaaa ttacattcaa 60  
 gcaatcgaaa cactaagtga tgctattaaa aaatatccaa aagtacaact cggctattac 120  
 tttttatcaa tagcatacag agaaaataat caactaacag aagcagaagg agcattgctc 180  
 gatggaattg cagtaggggg tgaaatcgac tacatactat attatgaatt aggcaacata 240  
 atgtttaaca gaggggaagg ttactatcct ttagcaataa aatattattc taattctatt 300  
 aaaagtagac ctaattatga cagtgcgcta ctaaacagag ctaatgccta tgttcaacag 360  
 ggcaaaaataa cttctaaaga aaaagaatac caaaaagctt gggactctta tactatggct 420  
 atccacgact actctcaatt tattaccctt agatcaaaaa cagaaaaaaa agacagcatt 480  
 ttgcttataa taagctattht aagaaatgaa aaaattaatc ttgaacaact tgacaaaagt 540  
 ttgaaggggc gaaccgagca tattgtatac gcaaaagaag ataaaaatca aatacttaaa 600  
 gatagtttta aagacaacct agaaacaaat tctttaattg agctagaaaa acttaattgg 660  
 caagaggagt tatacataga tgaataa 687

<210> 328  
 <211> 323  
 <212> PRT  
 <213> Homo sapiens

<400> 328  
 Met Lys Phe Ile Ile Asn Leu Leu Leu Ser Thr Ile Lys Ile Ile Thr  
 1 5 10 15  
 Phe Thr Val Ile Val Cys Leu Thr Ile Leu Ser Ile Phe Gln Pro Ile  
 20 25 30  
 Tyr Ile Leu Lys Glu Asn Glu Ile Ser Ile Thr Thr Arg Leu Gly Lys  
 35 40 45  
 Ile Gln Arg Thr Glu Asn Leu Ala Gly Leu Lys Tyr Lys Ile Pro Leu  
 50 55 60  
 Ile Glu Asn Val Gln Ile Phe Pro Lys Ile Ile Leu Arg Trp Asp Gly  
 65 70 75 80  
 Glu Pro Gln Arg Ile Pro Thr Gly Gly Glu Glu Lys Gln Leu Ile Trp  
 85 90 95  
 Ile Asp Thr Thr Ala Arg Trp Lys Ile Ala Asp Ile Asn Lys Phe Tyr  
 100 105 110  
 Thr Thr Ile Lys Thr Met Ser Arg Ala Tyr Val Arg Ile Asp Ala Ala  
 115 120 125  
 Ile Glu Pro Ala Val Arg Gly Val Ile Ala Lys Tyr Pro Leu Leu Glu  
 130 135 140  
 Ile Ile Arg Ser Ser Asn Asp Pro Ile Gln Arg Leu Ser Asn Gly Ile  
 145 150 155 160  
 Leu Thr Pro Gln Glu Thr Lys Ile Asn Gly Ile Tyr Lys Ile Thr Lys  
 165 170 175  
 Gly Arg Lys Ile Ile Glu Lys Glu Ile Ile Arg Ile Ala Asn Asn Asn

[illegible]

```
<210> 329
<211> 296
<212> PRT
<213> Homo sapiens
```

<400> 329															
Ile	Phe	Gln	Pro	Ile	Tyr	Ile	Leu	Lys	Glu	Asn	Glu	Ile	Ser	Ile	Thr
1				5					10					15	
Thr	Arg	Leu	Gly	Lys	Ile	Gln	Arg	Thr	Glu	Asn	Leu	Ala	Gly	Leu	Lys
			20					25					30		
Tyr	Lys	Ile	Pro	Leu	Ile	Glu	Asn	Val	Gln	Ile	Phe	Pro	Lys	Ile	Ile
		35					40					45			
Leu	Arg	Trp	Asp	Gly	Glu	Pro	Gln	Arg	Ile	Pro	Thr	Gly	Gly	Glu	Glu
	50					55					60				
Lys	Gln	Leu	Ile	Trp	Ile	Asp	Thr	Thr	Ala	Arg	Trp	Lys	Ile	Ala	Asp
	65				70					75					80
Ile	Asn	Lys	Phe	Tyr	Thr	Thr	Ile	Lys	Thr	Met	Ser	Arg	Ala	Tyr	Val
				85					90					95	
Arg	Ile	Asp	Ala	Ala	Ile	Glu	Pro	Ala	Val	Arg	Gly	Val	Ile	Ala	Lys
			100					105					110		
Tyr	Pro	Leu	Leu	Glu	Ile	Ile	Arg	Ser	Ser	Asn	Asp	Pro	Ile	Gln	Arg
		115					120					125			

Leu Ser Asn Gly Ile Leu Thr Pro Gln Glu Thr Lys Ile Asn Gly Ile  
 130 135 140

Tyr Lys Ile Thr Lys Gly Arg Lys Ile Ile Glu Lys Glu Ile Ile Arg  
 145 150 155 160

Ile Ala Asn Asn Asn Thr Lys Asp Ile Gly Ile Glu Ile Val Asp Val  
 165 170 175

Leu Ile Arg Lys Val Thr Tyr Asp Pro Ser Leu Ile Glu Ser Val Asn  
 180 185 190

Asn Arg Met Ile Ser Glu Arg Gln Gln Ile Ala Glu Glu Gln Arg Ser  
 195 200 205

Ile Gly Leu Ala Glu Lys Thr Glu Ile Leu Gly Ser Ile Glu Lys Glu  
 210 215 220

Lys Leu Lys Ile Leu Ser Glu Ala Lys Ala Thr Ala Ala Lys Ile Lys  
 225 230 235 240

Ala Glu Gly Asp Arg Glu Ala Ala Lys Ile Tyr Ser Asn Ala Tyr Gly  
 245 250 255

Lys Asn Ile Glu Phe Tyr Lys Phe Trp Gln Ala Leu Glu Ser Tyr Lys  
 260 265 270

Ala Val Leu Lys Asp Lys Arg Lys Ile Phe Ser Thr Asp Met Asp Phe  
 275 280 285

Phe Gln Tyr Leu His Lys Arg Asn  
 290 295

<210> 330

<211> 972

<212> DNA

<213> Homo sapiens

<400> 330

```

atgaaattta taataaatct tttattatct actataaaga ttataacctt tacagtaata 60
gtttgcttga ctattttgtc tattttccag ccaatttata ttttgaaaga aaatgaaatt 120
tcaataacca ctcgacttgg aaaaattcaa agaactgaaa atttagctgg acttaaatat 180
aaaataccat taattgaaaa tgtgcaaata tttcccaaaa tcattcttag atgggatgga 240
gaacctcaaa gaatcccaac aggaggggaa gaaaagcaat taatatggat tgatacaact 300
gctagatgga aaattgcaga cataaataaa ttttacacaa caataaaaac aatgagtaga 360
gcttacgtta gaattgatgc agcaattgaa cctgctgtta ggggggttat tgcaaaatac 420
cctttgcttg aaattataag aagctcaaac gatcctattc aacgtttgtc taatggaata 480
ctcaccacac aagaacaaaa aattaacggt atttataaaa taacaaaagg acgaaagata 540
atcgaaaaag aaataattcg tatagcaaac aacaatacca aagatatagg aattgaaatt 600
gtagacgtac taataagaaa agttacttat gacccaagcc ttattgaatc tgtaaacac 660
agaatgatct cagaaagaca acaaatcgca gaagaacaaa gaagcatagg attagctgaa 720
aaaacagaaa ttcttgggaag catagaaaaa gaaaaactga aaatattaag tgaagcaaaa 780
gccactgctg caaaaataaa agccgaaggg gatagagaag cgcgaaaaat ttattcaaat 840
gcatatggca aaaatattga attttacaaa ttctggcagg cattagaaag ctataaagca 900
gtattaaaag ataaaagaaa aattttctca acagacatgg atttctttca atatcttcac 960
aaaagaaatt ga

```

<210> 331  
 <211> 891  
 <212> DNA  
 <213> Homo sapiens

<400> 331  
 attttccagc caatttatat tttgaaagaa aatgaaattt caataaccac tcgacttgga 60  
 aaaattcaaa gaactgaaaa tttagctgga cttaaatata aaataccatt aattgaaaat 120  
 gtgcaaatat ttcccaaaat cattcttaga tgggatggag aacctcaaag aatcccaaca 180  
 ggagggggaag aaaagcaatt aatatggatt gatacaactg ctatagtgga aattgcagac 240  
 ataaataaat ttacacaaac aataaaaaca atgagtagag cttacgttag aattgatgca 300  
 gcaattgaac ctgctgttag gggggttatt gcaaaatacc ctttgcttga aattataaga 360  
 agctcaaacg atcctattca acgtttgtct aatggaatac tcaccccaac agaaacaaaa 420  
 attaacggta ttataaaaat aacaaaagga cgaaagataa tcgaaaaaga aataattcgt 480  
 atagcaaaaca acaataccaa agatattgga attgaaattg tagacgtact aataagaaaa 540  
 gttacttatg acccaagcct tattgaatct gtaaacaca gaatgatctc agaaagacaa 600  
 caaatcgagc aagaacaaaag aagcatagga ttagctgaaa aaacagaaat tcttggagac 660  
 atagaaaaag aaaaactgaa aatattaagt gaagcaaaag ccactgctgc aaaaataaaa 720  
 gccgaagggg atagagaagc cgcaaaaatt tattcaaag catatggcaa aatattgaa 780  
 ttttacaat tctggcaggc attagaaagc tataaagcag tattaagaaga taaaagaaaa 840  
 attttctcaa cagacatgga tttctttcaa tatcttcaca aaagaaattg a 891

<210> 332  
 <211> 246  
 <212> PRT  
 <213> Homo sapiens

<400> 332  
 Met Ser Gly Pro Lys Lys Leu Ala Ile Ile Ala Leu Leu Val Ile Ser  
 1 5 10 15  
 Ile Gln Gly Cys Lys Glu Ser Ser Ile Ile Glu Lys Gln Phe Asn Tyr  
 20 25 30  
 Ala Ile Ile Phe Ser Asp Ala Thr Glu Tyr Phe Phe Glu Ile Gln Thr  
 35 40 45  
 Thr Pro Phe Ile Lys Asn Glu Ile Leu Phe Ile Asn Asp Lys Asn Leu  
 50 55 60  
 Glu Ile Ile Lys Asp Lys Leu Lys Thr Thr Lys Lys Ile Leu Leu Thr  
 65 70 75 80  
 His Lys Ser Asn Asn Glu Ile Leu Asn Asn Glu Ile Leu Lys Glu Lys  
 85 90 95  
 Ile Phe Tyr Leu Ser Lys Ile Lys Phe Ser Leu Lys Lys Ser Ile Asp  
 100 105 110  
 Phe Leu Leu Asn Glu Lys Ser Ile Asp Leu Gln Lys Thr Leu Leu Phe  
 115 120 125  
 Arg Asp Lys Ser Leu Asn Asn Glu Asp Leu Glu Tyr Leu Glu Lys Lys  
 130 135 140  
 Gly Lys Glu Lys Asn Val Asn Ile Thr Leu Ile Asn Glu Lys Asn Ile  
 145 150 155 160



Ser Tyr Ile Gln Thr Phe Ile Thr Ser Gln Ile Lys Thr Ile Ile Leu  
165 170 175

Phe Ser Leu Arg Asp Asn Asn Ile Ile Leu Lys Lys Ile Leu Asn Ser  
180 185 190

Pro Phe Ser Lys Asn Ile Lys Phe Val Leu Ile Gly Asn Thr Arg Lys  
195 200 205

Asp Leu Lys Ile Ile Lys Leu Lys Tyr Ile Ile Thr Leu Lys Glu Pro  
210 215 220

Asp Leu Ile Lys Ile Ala Lys Asp Val Glu Lys Asp Phe Gln Tyr Glu  
225 230 235 240

Phe Asn Ile Tyr Lys Gln  
245

<210> 333

<211> 220

<212> PRT

<213> Homo sapiens

<400> 333

Glu Lys Gln Phe Asn Tyr Ala Ile Ile Phe Ser Asp Ala Thr Glu Tyr  
1 5 10 15

Phe Phe Glu Ile Gln Thr Thr Pro Phe Ile Lys Asn Glu Ile Leu Phe  
20 25 30

Ile Asn Asp Lys Asn Leu Glu Ile Ile Lys Asp Lys Leu Lys Thr Thr  
35 40 45

Lys Lys Ile Leu Leu Thr His Lys Ser Asn Asn Glu Ile Leu Asn Asn  
50 55 60

Glu Ile Leu Lys Glu Lys Ile Phe Tyr Leu Ser Lys Ile Lys Phe Ser  
65 70 75 80

Leu Lys Lys Ser Ile Asp Phe Leu Leu Asn Glu Lys Ser Ile Asp Leu  
85 90 95

Gln Lys Thr Leu Leu Phe Arg Asp Lys Ser Leu Asn Asn Glu Asp Leu  
100 105 110

Glu Tyr Leu Glu Lys Lys Gly Lys Glu Lys Asn Val Asn Ile Thr Leu  
115 120 125

Ile Asn Glu Lys Asn Ile Ser Tyr Ile Gln Thr Phe Ile Thr Ser Gln  
130 135 140

Ile Lys Thr Ile Ile Leu Phe Ser Leu Arg Asp Asn Asn Ile Ile Leu  
145 150 155 160

Lys Lys Ile Leu Asn Ser Pro Phe Ser Lys Asn Ile Lys Phe Val Leu  
165 170 175

Ile Gly Asn Thr Arg Lys Asp Leu Lys Ile Ile Lys Leu Lys Tyr Ile

180 185 190

Ile Thr Leu Lys Glu Pro Asp Leu Ile Lys Ile Ala Lys Asp Val Glu  
 195 200 205

Lys Asp Phe Gln Tyr Glu Phe Asn Ile Tyr Lys Gln  
 210 215 220

<210> 334  
 <211> 741  
 <212> DNA  
 <213> Homo sapiens

<400> 334

atgtctggcc	ctaaaaaact	tgctataata	gcgctcttag	taatttcaat	acaaggatgc	60
aaagaatctt	ctattattga	aaaacaattt	aattatgcaa	taattttttc	agatgcaact	120
gaatattttt	ttgaaattca	aacaactcca	ttcataaaaa	acgaaatact	atttataaat	180
gacaaaaatt	tagaaattat	aaaagacaag	cttaaaaaca	caaaaaaaat	actattaact	240
cataaatcaa	ataatgaaat	tctaaataac	gaaattctaa	aagagaaaat	tttttatcta	300
tcaaaaaata	aattttctct	aaaaaaatct	attgactttc	tgcttaacga	aaaaatcaata	360
gatttgcaaa	aaacattact	atthagagac	aatctcttaa	ataacgaaga	ccttgaatac	420
ttggaaaaaa	aaggcaaaga	aaaaaatgtc	aatattactc	taataaacga	aaaaaacata	480
tcctatatct	aaacattcat	tacttctcaa	ataaaaaaca	taatattatt	ctctttaaga	540
gataataata	ttatttttaa	aaagatacta	aattcgcttt	tttctaaaaa	tataaaattt	600
gtattaattg	gcaataacaag	aaaagactta	aaaattatta	agctaaaaata	tataatcacc	660
cttaagagac	ctgatttgat	aaaaatagca	aaagatgttg	aaaaagattt	tcaatatgaa	720
tttaacattt	ataaacaata	a				741

<210> 335  
 <211> 663  
 <212> DNA  
 <213> Homo sapiens

<400> 335

gaaaaacaat	ttaattatgc	aataattttt	tcagatgcaa	ctgaatattt	ttttgaaatt	60
caaacaaactc	cattcataaa	aaacgaaata	ctatttataa	atgacaaaaa	tttagaaatt	120
ataaaagaca	agcttaaaac	aacaaaaaaa	atactattaa	ctcataaatc	aaataatgaa	180
attctaaata	acgaaattct	aaaagagaaa	atttttttatc	tatcaaaaaat	aaaattttct	240
ctaaaaaaat	ctattgactt	tctgcttaac	gaaaaatcaa	tagatttgca	aaaaacatta	300
ctattttagag	acaaatctct	aaataacgaa	gaccttgaat	acttggaaaa	aaaaggcaaa	360
gaaaaaaatg	tcaatattac	tctaataaac	gaaaaaaaca	tatcctatat	tcaaacattc	420
attactttctc	aaataaaaaac	aataatatta	ttctctttta	gagataataa	tattatttta	480
aaaaagatac	taaattcgcc	tttttctaaa	aatataaaaat	ttgtattaat	tggaataaca	540
agaaaagact	taaaaattat	taagctaaaa	tatataatca	cccttaaaga	gcctgatttg	600
ataaaaaatag	caaaagatgt	tgaaaaagat	tttcaatatg	aatttaacat	ttataaacaa	660
taa						663

<210> 336  
 <211> 127  
 <212> PRT  
 <213> Homo sapiens

<400> 336

Met	Ile	Asn	Phe	Ser	Lys	Ser	Phe	Phe	Tyr	Pro	Leu	Pro	Ile	Gly	Lys
1					5					10				15	

Ile Phe Val Leu Ser Gly Asp Met Gly Ser Gly Lys Thr Ser Phe Leu  
 20 25 30

Lys Gly Leu Ala Leu Asn Leu Gly Ile Ser Tyr Phe Thr Ser Pro Thr  
 35 40 45

Tyr Asn Ile Val Asn Val Tyr Asp Phe Ile Asn Phe Lys Phe Tyr His  
 50 55 60

Ile Asp Leu Tyr Arg Val Ser Ser Leu Glu Glu Phe Glu Leu Val Gly  
 65 70 75 80

Gly Leu Glu Ile Leu Met Asp Leu Asp Ser Ile Ile Ala Ile Glu Trp  
 85 90 95

Pro Gln Ile Ala Leu Ser Ile Val Pro Lys Asp Arg Leu Phe Ser Leu  
 100 105 110

Thr Phe Lys Ile Val Gly Ser Gly Arg Val Val Glu Leu Asn Gly  
 115 120 125

<210> 337

<211> 100

<212> PRT

<213> Homo sapiens

<400> 337

Lys Thr Ser Phe Leu Lys Gly Leu Ala Leu Asn Leu Gly Ile Ser Tyr  
 1 5 10 15

Phe Thr Ser Pro Thr Tyr Asn Ile Val Asn Val Tyr Asp Phe Ile Asn  
 20 25 30

Phe Lys Phe Tyr His Ile Asp Leu Tyr Arg Val Ser Ser Leu Glu Glu  
 35 40 45

Phe Glu Leu Val Gly Gly Leu Glu Ile Leu Met Asp Leu Asp Ser Ile  
 50 55 60

Ile Ala Ile Glu Trp Pro Gln Ile Ala Leu Ser Ile Val Pro Lys Asp  
 65 70 75 80

Arg Leu Phe Ser Leu Thr Phe Lys Ile Val Gly Ser Gly Arg Val Val  
 85 90 95

Glu Leu Asn Gly  
 100

<210> 338

<211> 384

<212> DNA

<213> Homo sapiens

<400> 338

atgataaatt ttccaaatc ttttttttat cctttgccaa ttggtaaaat atttgtttta 60  
 agtggtgaca tgggatctgg aaaaactagt tttttaagg gacttgccct taaccttgga 120  
 atttcttatt ttacaagtcc aacttataac attgttaatg tttatgattt tataaatttt 180  
 aaattttatc atattgattt atatcgggtg tcttcttttg aagaatttga gcttggtggg 240  
 ggattggaaa tacttatgga tcttgactcg attattgcta ttgaatggcc acaaattgct 300  
 ttgagcattg ttccaaaaga tagattattt tctttaactt ttaaaatagt aggttcaggc 360

agggttgtag aacttaatgg ttaa

384

&lt;210&gt; 339

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 339

```

aaaactagtt ttttaaaggg acttgccctt aaccttgga tttcttattt tacaagtcca 60
acttataaca ttgttaatgt ttatgatttt ataaatttta aattttatca tattgattta 120
tatcggtgtg cttcttttga agaatttgag cttgttgggg gattggaaat acttatggat 180
cttgactcga ttattgctat tgaatggcca caaattgctt tgagcattgt tccaaaagat 240
agattatttt ctttaacttt taaaatagta gggttcaggca gggttgtaga acttaatggt 300
taa                                              303

```

&lt;210&gt; 340

&lt;211&gt; 389

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 340

```

Met Asn Thr Lys Ala Thr Thr Pro Leu Leu Leu Leu Phe Leu Ile Gln
  1              5              10              15

Ser Leu Ala Phe Ser Ser Glu Ile Phe Glu Phe Lys Tyr Ile Lys Gly
      20              25              30

Ser Lys Phe Arg Leu Glu Gly Thr Asp Asn Gln Lys Ile Tyr Phe Asn
      35              40              45

Gly His Tyr Asn Ser Ser Ser Asn Thr Asn Ile Gln Ile Ser Ser Glu
      50              55              60

Ile Lys Asp Ile Lys Glu Asn Phe Ala Ser Ile Lys Ala Phe Phe Arg
      65              70              75              80

Ile Leu Lys Arg Glu Asn Ile Asn Glu Pro Tyr Leu Leu Asn Glu Glu
      85              90              95

Phe Glu Glu Ile Phe Ser Val Asn Lys Gln Gly Glu Tyr Thr Ile Gly
      100              105              110

Ala Asn Gln Lys Arg Pro Ser Val Arg Gly Ile Pro Arg Phe Pro Lys
      115              120              125

Thr Pro Ile Lys Ile Asn Glu Lys Trp Ser Tyr Leu Ala Glu Glu Tyr
      130              135              140

Ile Glu Ala Ser Lys Ile Asp Lys Ser Ile Lys Asp Phe Val Val Lys
      145              150              155              160

Phe Asn Val Asn Tyr Glu Tyr Lys Gly Lys Glu Glu His Asn Gly Lys
      165              170              175

His Tyr His Ile Ile Leu Ser Asn Tyr Glu Ser Gln Tyr Asn Val Lys
      180              185              190

Asn Ile Ser Phe Tyr Gln Lys Val Asp Gln Lys Ile Tyr Phe Asp Asn

```

195                      200                      205  
 Glu Ile Gly Asn Thr Tyr Lys Tyr Ser Asp Lys Tyr Ile Phe Glu Ile  
     210                      215                      220  
 Asn Gln Asn Asn Asn Gln His Phe Lys Met Ile Gly Asn Ser Leu Gly  
     225                      230                      235                      240  
 Arg Ile Val Ser Ile Glu Leu Pro Asn Asp Asn Leu Ile Glu Thr Glu  
                     245                      250                      255  
 Val Glu Asn Tyr Ile Arg Glu Lys Lys Ile Lys Ala Ile Glu Val Glu  
                     260                      265                      270  
 Lys Asn Asn Lys Gly Ile Asn Leu Ser Phe Asp Ile Glu Phe Tyr Pro  
                     275                      280                      285  
 Asn Ser Phe Gln Ile Leu Gln Lys Glu Tyr Lys Lys Ile Asp Leu Ile  
                     290                      295                      300  
 Ala Lys Leu Leu Glu Lys Phe Lys Lys Asn Asn Ile Leu Ile Glu Gly  
     305                      310                      315                      320  
 His Thr Glu Gln Phe Gly Leu Glu Glu Glu Met His Glu Leu Ser Glu  
                     325                      330                      335  
 Lys Arg Ala Arg Ala Ile Gly Asn Tyr Leu Ile Lys Met Lys Val Lys  
                     340                      345                      350  
 Asp Lys Asp Gln Ile Leu Phe Lys Gly Trp Gly Ser Gln Lys Pro Lys  
                     355                      360                      365  
 Tyr Pro Lys Ser Ser Pro Leu Lys Ala Lys Asn Arg Arg Val Glu Ile  
     370                      375                      380  
 Thr Ile Leu Asn Asn  
 385  
 <210> 341  
 <211> 368  
 <212> PRT  
 <213> Homo sapiens  
 <400> 341  
 Ser Glu Ile Phe Glu Phe Lys Tyr Ile Lys Gly Ser Lys Phe Arg Leu  
     1                      5                      10                      15  
 Glu Gly Thr Asp Asn Gln Lys Ile Tyr Phe Asn Gly His Tyr Asn Ser  
                     20                      25                      30  
 Ser Ser Asn Thr Asn Ile Gln Ile Ser Ser Glu Ile Lys Asp Ile Lys  
                     35                      40                      45  
 Glu Asn Phe Ala Ser Ile Lys Ala Phe Phe Arg Ile Leu Lys Arg Glu  
     50                      55                      60  
 Asn Ile Asn Glu Pro Tyr Leu Leu Asn Glu Glu Phe Glu Glu Ile Phe  
     65                      70                      75                      80

Ser Val Asn Lys Gln Gly Glu Tyr Thr Ile Gly Ala Asn Gln Lys Arg  
 85 90 95  
 Pro Ser Val Arg Gly Ile Pro Arg Phe Pro Lys Thr Pro Ile Lys Ile  
 100 105 110  
 Asn Glu Lys Trp Ser Tyr Leu Ala Glu Glu Tyr Ile Glu Ala Ser Lys  
 115 120 125  
 Ile Asp Lys Ser Ile Lys Asp Phe Val Val Lys Phe Asn Val Asn Tyr  
 130 135 140  
 Glu Tyr Lys Gly Lys Glu Glu His Asn Gly Lys His Tyr His Ile Ile  
 145 150 155 160  
 Leu Ser Asn Tyr Glu Ser Gln Tyr Asn Val Lys Asn Ile Ser Phe Tyr  
 165 170 175  
 Gln Lys Val Asp Gln Lys Ile Tyr Phe Asp Asn Glu Ile Gly Asn Thr  
 180 185 190  
 Tyr Lys Tyr Ser Asp Lys Tyr Ile Phe Glu Ile Asn Gln Asn Asn Asn  
 195 200 205  
 Gln His Phe Lys Met Ile Gly Asn Ser Leu Gly Arg Ile Val Ser Ile  
 210 215 220  
 Glu Leu Pro Asn Asp Asn Leu Ile Glu Thr Glu Val Glu Asn Tyr Ile  
 225 230 235 240  
 Arg Glu Lys Lys Ile Lys Ala Ile Glu Val Glu Lys Asn Asn Lys Gly  
 245 250 255  
 Ile Asn Leu Ser Phe Asp Ile Glu Phe Tyr Pro Asn Ser Phe Gln Ile  
 260 265 270  
 Leu Gln Lys Glu Tyr Lys Lys Ile Asp Leu Ile Ala Lys Leu Leu Glu  
 275 280 285  
 Lys Phe Lys Lys Asn Asn Ile Leu Ile Glu Gly His Thr Glu Gln Phe  
 290 295 300  
 Gly Leu Glu Glu Glu Met His Glu Leu Ser Glu Lys Arg Ala Arg Ala  
 305 310 315 320  
 Ile Gly Asn Tyr Leu Ile Lys Met Lys Val Lys Asp Lys Asp Gln Ile  
 325 330 335  
 Leu Phe Lys Gly Trp Gly Ser Gln Lys Pro Lys Tyr Pro Lys Ser Ser  
 340 345 350  
 Pro Leu Lys Ala Lys Asn Arg Arg Val Glu Ile Thr Ile Leu Asn Asn  
 355 360 365

<210> 342  
 <211> 1170  
 <212> DNA  
 <213> Homo sapiens

<400> 342  
 atgaatacca aggcgactac accattgttg ttattatatt taattcaaag cttagctttt 60  
 tcttctgaaa tctttgaatt taaatacatt aaagggttcaa agtttagatt agaaggcaca 120  
 gataatcaaa aaatatattt caatggccat tataattcaa gctctaatac caatattcaa 180  
 atttcaagtg aaataaaaaga cataaaaagaa aactttgcaa gcattaaagc tttttttaga 240  
 atcttaaaaa gagaaaatat taatgaacct tacctattaa atgaagagtt tgaagaaatc 300  
 ttcagcgtaa ataagcaagg agaatatata ataggagcaa atcaaaaaag accttctgtt 360  
 agaggatttc caagattccc aaaaacacca atcaaaaata atgaaaaatg gtcatatctt 420  
 gcagaagaat atatagaagc gtcaaaaata gacaaaagta taaaagattt cgttgtaaaa 480  
 tttaatgtta actacgaata taaaggcaaa gaagagcaca atggcaagca ttaccacata 540  
 attcttttga attatgaatc acaatacaat gtataaaaaca tctcttttcta tcaaaaagta 600  
 gacaaaaaaa tttatttttga taatgaaatt ggcaatacat ataaatacag cgataaatat 660  
 atatttgaaa taaatcagaa caacaaccaa cattttaaaa tgattggaaa ctctcttggc 720  
 agaatagttt caattgagct tccaaatgat aatcttattg aaactgaggt tgaaaattac 780  
 atccgagaaa aaaaaataaa agctattgaa gttgaaaaaa acaataaagg tattaattta 840  
 agcttttgaca ttgaatttta tcttaactca tttcaaatac tacaaaaaga atataaaaaa 900  
 attgacctta tagctaaact tcttgaaaaa tttaaaaaaa ataacatact aatagaagga 960  
 catactgagc aatttggatt ggaagaagag atgcacgagc tatctgaaaa aagagctcgt 1020  
 gcaattggaa attattttaat aaaaatgaaa gtaaaagaca aagaccaaact actattttaa 1080  
 ggatggggat ctcaaaaacc aaaatatcct aagtcctccc cattaaaggc taaaaatagg 1140  
 cgagtagaaa ttacaatatt aaataactaa 1170

<210> 343  
 <211> 1107  
 <212> DNA  
 <213> Homo sapiens

<400> 343  
 tctgaaatct ttgaatttaa atacattaaa ggttcaaagt ttagattaga aggcacagat 60  
 aatcaaaaaa tatattttcaa tggccattat aattcaagct ctaataccaa tattcaaatt 120  
 tcaagtgaaa taaaagacat aaaagaaaac tttgcaagca ttaaagcttt ttttagaatc 180  
 ttaaaaagag aaaatattaa tgaaccttac ctattaaatg aagagtttga agaaatcttc 240  
 agcgtaaaata agcaaggaga atatacaata ggagcaaatc aaaaaagacc ttctgttaga 300  
 ggtattccaa gattcccaaa aacaccaatc aaaataaatg aaaaatgggtc atatcttgca 360  
 gaagaatata tagaagcgtc aaaaatagac aaaagtataa aagatttcgt tgtaaaattt 420  
 aatgttaact acgaatataa aggcaaaagaa gagcacaatg gcaagcatta ccacataatt 480  
 ctttcgaatt atgaatcaca atacaatgta aaaaacatct ctttctatca aaaagtagac 540  
 caaaaaattt attttgataa tgaaattggc aatacatata aatacagcga taaatatata 600  
 tttgaaataa atcagaacaa caaccaacat tttaaaatga ttggaaactc tcttggcaga 660  
 atagtttcaa ttgagcttcc aaatgataat cttattgaaa ctgaggttga aaattacatc 720  
 cgagaaaaaa aaataaaaagc tattgaagtt gaaaaaaaaca ataaagggtat taatttaagc 780  
 tttgacattg aattttatcc taactcattt caaatactac aaaaagaata taaaaaaatt 840  
 gaccttatag ctaaaacttct tgaaaaattt aaaaaaaata acatactaat agaaggacat 900  
 actgagcaat ttggattgga agaagagatg cacgagctat ctgaaaaaag agctcgtgca 960  
 attggaattt atttaataaa aatgaaagta aaagacaaaag accaaatact atttaaaagga 1020  
 tggggatctc aaaaacaaaa atatcctaag tcctcccat taaaggctaa aaataggcga 1080  
 gtagaaatta caatattaaa taactaa 1170

<210> 344  
 <211> 612  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 344

Met Lys Ile Phe Ile Tyr Trp Val Val Ile Phe Phe Phe Ser Val Phe  
 1 5 10 15

Lys Val Phe Ser Ile Tyr Ser Leu Thr Asp Glu Glu Phe Phe Lys Lys  
 20 25 30

Tyr Ser Leu Phe Phe Val His Lys Gly Phe Leu Ser Lys Asn Val Asn  
 35 40 45

Gly Lys Ile Thr Lys Val Gln Val Asn Gly Ile Asn Ser Arg Trp Val  
 50 55 60

Tyr Pro Phe Tyr Lys Leu Val Pro Ser Arg Ile Thr Ser Ile Tyr Glu  
 65 70 75 80

Asp Val Tyr Ser Ser Ser Ser Phe Leu Thr Thr Ser Asn Asn Leu Tyr  
 85 90 95

Val Ser Tyr Asp Tyr Ser Lys Asn Phe Arg Lys Leu Val Gly Ile Asp  
 100 105 110

Lys Phe Asn Ser Gly Ala Tyr Ile Thr Ser Ser Ala Phe Ser Gln Gly  
 115 120 125

Asp Tyr Lys Arg Ile Ala Ile Gly Thr Ala Ile His Gly Ile Tyr Leu  
 130 135 140

Ser Val Asn Gly Ala Ile Ser Phe Lys Asn Leu Asn Arg Leu Ile Pro  
 145 150 155 160

Gln Ile Tyr Leu Gly Ala Gly Tyr Tyr Asp Ile Ile Ser Ala Ile Glu  
 165 170 175

Phe Ser Lys Glu Glu Thr Asn Asn Leu Tyr Phe Ser Ser Gly Val Tyr  
 180 185 190

Gly Asp Ile Phe Leu Ile Ser Gln Lys Ser Gly Phe Ile Lys Lys Ile  
 195 200 205

Ser Phe Pro Phe Lys Lys Gln Ile Ile Arg Ile Leu Asp Leu Ser Ser  
 210 215 220

Lys Asn Val Glu Lys Ile Leu Val Arg Thr Tyr Asp Asn His Phe Tyr  
 225 230 235 240

Ser Tyr Ile Asn Gly Gln Trp Val Phe Ile Gly Lys Leu Ser Leu Gln  
 245 250 255

Asp Gln Asp Phe Phe Glu Lys Ser Gln Arg Met Gln Leu Ala Lys Asn  
 260 265 270

Lys Gly Ser Ile Tyr Leu Thr Ala Tyr Thr Leu Arg Asn Lys Lys Ala  
 275 280 285

Val Asp Glu Arg Phe Lys Phe Ile Lys Asp Ser Gly Met Asn Ala Val  
 290 295 300



Val Ile Asp Phe Lys Asp Asp Asn Gly Asn Leu Thr Tyr Ser Ser Lys  
305 310 315 320

Leu Ser Leu Pro Asn Lys Leu Arg Ser Val Lys Asn Phe Ile Asp Val  
325 330 335

Pro Tyr Ile Leu Lys Lys Ala Lys Glu Leu Gly Ile Tyr Val Ile Ala  
340 345 350

Arg Cys Val Val Phe Lys Asp Ser Lys Leu Tyr Tyr Tyr Asp Asn Phe  
355 360 365

Lys His Ala Leu Trp Asn Lys Lys Thr Asn Lys Pro Trp Ala His Leu  
370 375 380

Ile Lys Lys Val Asp Ser Ser Gly Leu Val Lys Tyr Val Gln Val Glu  
385 390 395 400

His Trp Val Asp Ile Phe Ser Pro Ala Thr Trp Glu Tyr Asn Ile Ser  
405 410 415

Ile Ala Lys Glu Ile Gln Ser Phe Gly Val Asp Glu Ile Gln Phe Asp  
420 425 430

Tyr Ile Arg Phe Pro Ser Asp Gly Pro Val Ser Leu Ala Ile Ser Arg  
435 440 445

Met Asn Lys Tyr Glu Met Gln Pro Val Asp Ala Leu Glu Ser Phe Leu  
450 455 460

Ile Met Ala Arg Glu Gln Leu Tyr Val Pro Ile Ser Val Asp Ile Tyr  
465 470 475 480

Gly Tyr Asn Gly Trp Phe Pro Thr Asn Ser Ile Gly Gln Asn Ile Ser  
485 490 495

Met Leu Ser Asp Tyr Val Asp Val Ile Ser Pro Met Phe Tyr Pro Ser  
500 505 510

His Tyr Thr Asp Asp Phe Leu Pro Ser Asn Phe Tyr Tyr Thr Lys Arg  
515 520 525

Ala Tyr Arg Ile Tyr Lys Glu Gly Ser Asp Arg Ala Leu Ala Phe Ser  
530 535 540

Leu Asp Gly Val Val Ile Arg Pro Tyr Val Gln Ala Phe Leu Leu Gly  
545 550 555 560

Lys Glu Arg Leu Val Asp Asp Glu Ile Tyr Leu Glu Tyr Leu Lys Phe  
565 570 575

Gln Leu Lys Gly Ile Lys Glu Ser Phe Gly Ser Gly Phe Ser Leu Trp  
580 585 590

Asn Ala Ser Asn Val Tyr Tyr Met Ile Lys Gly Ser Leu Lys Glu Tyr  
595 600 605

Leu Asp Ser Phe

610

&lt;210&gt; 345

&lt;211&gt; 592

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 345

Ile Tyr Ser Leu Thr Asp Glu Glu Phe Phe Lys Lys Tyr Ser Leu Phe  
 1 5 10 15

Phe Val His Lys Gly Phe Leu Ser Lys Asn Val Asn Gly Lys Ile Thr  
 20 25 30

Lys Val Gln Val Asn Gly Ile Asn Ser Arg Trp Val Tyr Pro Phe Tyr  
 35 40 45

Lys Leu Val Pro Ser Arg Ile Thr Ser Ile Tyr Glu Asp Val Tyr Ser  
 50 55 60

Ser Ser Ser Phe Leu Thr Thr Ser Asn Asn Leu Tyr Val Ser Tyr Asp  
 65 70 75 80

Tyr Ser Lys Asn Phe Arg Lys Leu Val Gly Ile Asp Lys Phe Asn Ser  
 85 90 95

Gly Ala Tyr Ile Thr Ser Ser Ala Phe Ser Gln Gly Asp Tyr Lys Arg  
 100 105 110

Ile Ala Ile Gly Thr Ala Ile His Gly Ile Tyr Leu Ser Val Asn Gly  
 115 120 125

Ala Ile Ser Phe Lys Asn Leu Asn Arg Leu Ile Pro Gln Ile Tyr Leu  
 130 135 140

Gly Ala Gly Tyr Tyr Asp Ile Ile Ser Ala Ile Glu Phe Ser Lys Glu  
 145 150 155 160

Glu Thr Asn Asn Leu Tyr Phe Ser Ser Gly Val Tyr Gly Asp Ile Phe  
 165 170 175

Leu Ile Ser Gln Lys Ser Gly Phe Ile Lys Lys Ile Ser Phe Pro Phe  
 180 185 190

Lys Lys Gln Ile Ile Arg Ile Leu Asp Leu Ser Ser Lys Asn Val Glu  
 195 200 205

Lys Ile Leu Val Arg Thr Tyr Asp Asn His Phe Tyr Ser Tyr Ile Asn  
 210 215 220

Gly Gln Trp Val Phe Ile Gly Lys Leu Ser Leu Gln Asp Gln Asp Phe  
 225 230 235 240

Phe Glu Lys Ser Gln Arg Met Gln Leu Ala Lys Asn Lys Gly Ser Ile  
 245 250 255

Tyr Leu Thr Ala Tyr Thr Leu Arg Asn Lys Lys Ala Val Asp Glu Arg  
 260 265 270

Phe Lys Phe Ile Lys Asp Ser Gly Met Asn Ala Val Val Ile Asp Phe  
 275 280 285  
 Lys Asp Asp Asn Gly Asn Leu Thr Tyr Ser Ser Lys Leu Ser Leu Pro  
 290 295 300  
 Asn Lys Leu Arg Ser Val Lys Asn Phe Ile Asp Val Pro Tyr Ile Leu  
 305 310 315 320  
 Lys Lys Ala Lys Glu Leu Gly Ile Tyr Val Ile Ala Arg Cys Val Val  
 325 330 335  
 Phe Lys Asp Ser Lys Leu Tyr Tyr Tyr Asp Asn Phe Lys His Ala Leu  
 340 345 350  
 Trp Asn Lys Lys Thr Asn Lys Pro Trp Ala His Leu Ile Lys Lys Val  
 355 360 365  
 Asp Ser Ser Gly Leu Val Lys Tyr Val Gln Val Glu His Trp Val Asp  
 370 375 380  
 Ile Phe Ser Pro Ala Thr Trp Glu Tyr Asn Ile Ser Ile Ala Lys Glu  
 385 390 395 400  
 Ile Gln Ser Phe Gly Val Asp Glu Ile Gln Phe Asp Tyr Ile Arg Phe  
 405 410 415  
 Pro Ser Asp Gly Pro Val Ser Leu Ala Ile Ser Arg Met Asn Lys Tyr  
 420 425 430  
 Glu Met Gln Pro Val Asp Ala Leu Glu Ser Phe Leu Ile Met Ala Arg  
 435 440 445  
 Glu Gln Leu Tyr Val Pro Ile Ser Val Asp Ile Tyr Gly Tyr Asn Gly  
 450 455 460  
 Trp Phe Pro Thr Asn Ser Ile Gly Gln Asn Ile Ser Met Leu Ser Asp  
 465 470 475 480  
 Tyr Val Asp Val Ile Ser Pro Met Phe Tyr Pro Ser His Tyr Thr Asp  
 485 490 495  
 Asp Phe Leu Pro Ser Asn Phe Tyr Tyr Thr Lys Arg Ala Tyr Arg Ile  
 500 505 510  
 Tyr Lys Glu Gly Ser Asp Arg Ala Leu Ala Phe Ser Leu Asp Gly Val  
 515 520 525  
 Val Ile Arg Pro Tyr Val Gln Ala Phe Leu Leu Gly Lys Glu Arg Leu  
 530 535 540  
 Val Asp Asp Glu Ile Tyr Leu Glu Tyr Leu Lys Phe Gln Leu Lys Gly  
 545 550 555 560  
 Ile Lys Glu Ser Phe Gly Ser Gly Phe Ser Leu Trp Asn Ala Ser Asn  
 565 570 575

Val Tyr Tyr Met Ile Lys Gly Ser Leu Lys Glu Tyr Leu Asp Ser Phe  
 580 585 590

<210> 346  
 <211> 1839  
 <212> DNA  
 <213> Homo sapiens

<400> 346  
 atgaaaattt ttatctattg ggtagttatt ttcttctttt ctgttttcaa ggtttttagt 60  
 atatattcat taaccgatga agaatttttt aaaaaatata gtttattttt tgttcataaa 120  
 ggatttttaa gtaaaaatgt taatgggaaa ataaccaaag ttcaagtcaa tgggataaat 180  
 tctaggtggg ttacccttt ttataagctt gttcctagtc gaattacttc tatttatgag 240  
 gatgtttatt cttcaagttc atttttgact acaagtaaca atctttatgt ttcttatgat 300  
 tattcaaaaa attttagaaa attagtagga attgataaat ttaatagcgg tgcataatatt 360  
 acatctagtg ccttttctca aggagattac aagcgtattg ctattggaac tgcgattcat 420  
 ggtattttatc ttagtggttaa tggagctatt agttttaaaa atttaaactc tttgattccg 480  
 cagattttatt taggtgcagg atattacgat attattagtg ctattgaatt ttcaaaagaa 540  
 gagacaaaata atttatattt ttctctcgga gtttatggag atattttttt aattagtcag 600  
 aaaagtggat ttattaaaaa aatatctttt cctttcaaaa agcaaataat acgtattttt 660  
 gacttatcta gtaagaatgt agaaaaaatt ttagtcagaa catatgacaa tcattttttat 720  
 tcttatatta atgggcaatg ggtattttatt ggaaaattat ctttgcagga tcaggatttt 780  
 tttgaaaaat cacaaaggat gcagcttgct aaaaaataaag ggtctattta tttacagca 840  
 tatacatgct gtaataagaa ggcagttgat gaaagattta aattttattaa agattcaggt 900  
 atgaatgctt ttgtaattga ttttaaagat gataatggta atttgactta ttctagcaag 960  
 ctttctttgc ccaataagtt gagatctgtt aaaaacttta ttgatgttcc ttatatctt 1020  
 aaaaaagcaa aagagcttg aatttatgtt attgctagat gtgttgatt taaagattca 1080  
 aaattgtatt attatgataa ttttaaacac gccctttgga ataaaaaac caataaacct 1140  
 tgggctcatt tgattaaaaa agttgattct agtggctctg tgaaatatgt acaagtagag 1200  
 cattgggtag atattttttc tctgctact tgggaatata atatttctat cgcaaaagaa 1260  
 attcaatctt ttggagttga cgagatacaa tttgattata ttgatttcc atcagatggg 1320  
 cctgtgtctc ttgcaatctc aagaatgaat aagtatgaga tgcaaccgt tgatgcactt 1380  
 gaatcttttt tgattatggc aagagaacag ctttatgttc ctatttctgt tgatattttat 1440  
 ggggtacaatg gctgggttcc tactaatagt attgggcaa atatttcaat gttatcagat 1500  
 tatgttgacg tcatatctcc tatgttttat ccttcgcatt atactgatga ttttttgcca 1560  
 agcaattttt attacacaaa aagagcttat aggatttata aagaggggag tgatagagca 1620  
 cttgcttttt ctttagatgg ggttgattat aggcttatg ttcaagcttt tttattagga 1680  
 aaagaaagat tgggtggatga cgagatttat ttggagtatt taaagtttca gcttaaagga 1740  
 attaaagagt catttggtag tggcttttag ctttggaatg catctaattg ttatttatatg 1800  
 attaaaggta gtttaaaaga atatttagat tcttttttaa 1839

<210> 347  
 <211> 1779  
 <212> DNA  
 <213> Homo sapiens

<400> 347  
 atatattcat taaccgatga agaatttttt aaaaaatata gtttattttt tgttcataaa 60  
 ggatttttaa gtaaaaatgt taatgggaaa ataaccaaag ttcaagtcaa tgggataaat 120  
 tctaggtggg ttacccttt ttataagctt gttcctagtc gaattacttc tatttatgag 180  
 gatgtttatt cttcaagttc atttttgact acaagtaaca atctttatgt ttcttatgat 240  
 tattcaaaaa attttagaaa attagtagga attgataaat ttaatagcgg tgcataatatt 300  
 acatctagtg ccttttctca aggagattac aagcgtattg ctattggaac tgcgattcat 360  
 ggtattttatc ttagtggttaa tggagctatt agttttaaaa atttaaactc tttgattccg 420  
 cagattttatt taggtgcagg atattacgat attattagtg ctattgaatt ttcaaaagaa 480

```

gagacaaata atttatat ttcctctgga gtttatggag atattttttt aattagtcag 540
aaaagtggat ttattaaaaa aatatctttt cttttcaaaa agcaaataat acgtatttta 600
gacttatcta gtaagaatgt agaaaaaatt ttagtcagaa catatgacaa tcatttttat 660
tcttatatta atgggcaatg ggtatttatt ggaaaattat ctttgcagga tcaggatttt 720
tttgaanaat cacaaaggat gcagcttgct aaaaataaag ggtctattta tttaacagca 780
tatacattgc gtaataagaa ggcagttgat gaaagattta aatttattaa agattcaggt 840
atgaatgctg ttgtaattga ttttaaagat gataatggta atttgactta ttctagcaag 900
ctttctttgc ccaataagtt gagatctggt aaaaacttta ttgatgttcc ttatattctt 960
aaaaaagcaa aagagcttgg aatttatgtt attgctagat gtgttgattt taaagattca 1020
aaattgtatt attatgataa ttttaaacac gccctttgga ataaaaaac caataaacct 1080
tggtgtcatt tgattaaaaa agttgattct agtggctctg tgaaatatgt acaagtagag 1140
cattgggtag atattttttt tctgtctact tgggaatata atatttctat cgcaaaagaa 1200
attcaatctt ttggagttga cgagatacaa ttgattata ttagatttcc atcagatggg 1260
cctgtgtctc ttgcaatctc aagaatgaat aagtatgaga tgcaaccctg tgatgcactt 1320
gaatcttttt tgattatggc aagagaacag ctttatgttc ctatttctgt tgatatttat 1380
gggtacaatg gctggtttcc tactaatagt attgggcaaa atatttcaat gttatcagat 1440
tatgttgacg tcatatctcc tatgttttat ccttcgcatt atactgatga ttttttgcca 1500
agcaattttt attacacaaa aagagcttat aggtattata aagaggggag tgatagagca 1560
cttgcttttt ctttagatgg ggttggtatt aggccttatg ttcaagcttt tttattagga 1620
aaagaaagat tgggtggatga cgagatttat ttggagtatt taaagtttca gcttaaagga 1680
attaaagagt catttggtag tggcttttagc ctttggaatg catctaattg ttattatatg 1740
attaaaggta gtttaaaaga atatttagat tcttttttaa 1779

```

&lt;210&gt; 348

&lt;211&gt; 224

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 348

```

Met Ser Ile Lys Lys Phe Ile Leu Thr Leu Ile Ile Leu Ser Leu Ala
 1              5              10              15

Lys Asn Ser Phe Ser Glu Asn Glu Ile Asn Ile Phe Glu Asn Glu Asn
      20              25              30

Tyr Ile Val Lys Glu Asn Ile Lys Thr Glu Ile Lys Lys Leu Lys Gln
 35              40              45

Ser Phe Leu Leu Ala Ser Val Asp Val Ala Ile Ser Gln Pro Tyr Ile
 50              55              60

Glu Leu Ala Asp Leu Asn Gly Glu Pro Ile Lys Glu Leu Glu Gly Ile
 65              70              75              80

Ser Tyr Ser Phe Ile Asn Val Phe Ser Lys Ile Gly Ser Ser Ala Ile
      85              90              95

Ile Ser Phe Asp Leu Ser Asn Glu Ala Ser Lys Lys Tyr Lys Ile Ile
 100              105              110

Lys Leu Glu Phe Leu Ser Pro Asp Lys Gly Asn Phe Ile Asn Gln Leu
 115              120              125

Ser Ser Leu Thr Ser Gly Lys Gln Gln Ser Lys Lys Glu Leu Ala Lys
 130              135              140

Asp Ala Tyr Ser Phe Gly Thr Leu Arg Thr Glu Ser Leu Ser Lys Thr
 145              150              155              160

```

Ile Ala Glu Tyr Tyr Lys Asp Asn Asn Trp Tyr Tyr Ile Leu Ala Ala  
165 170 175

Ile Thr Val Glu Asn Asn Ile Asn Lys Glu Thr Glu Lys Tyr Glu Ile  
180 185 190

Arg Ile Asn Pro Lys Ile Tyr Asn Asp Phe Gln Lys Lys Leu Arg Leu  
195 200 205

His Phe Lys Ser Asn Gln Ile Lys Lys Phe Pro Ile Pro Ile Ile Glu  
210 215 220

<210> 349

<211> 208

<212> PRT

<213> Homo sapiens

<400> 349

Lys Asn Ser Phe Ser Glu Asn Glu Ile Asn Ile Phe Glu Asn Glu Asn  
.1 5 10 15

Tyr Ile Val Lys Glu Asn Ile Lys Thr Glu Ile Lys Lys Leu Lys Gln  
20 25 30

Ser Phe Leu Leu Ala Ser Val Asp Val Ala Ile Ser Gln Pro Tyr Ile  
35 40 45

Glu Leu Ala Asp Leu Asn Gly Glu Pro Ile Lys Glu Leu Glu Gly Ile  
50 55 60

Ser Tyr Ser Phe Ile Asn Val Phe Ser Lys Ile Gly Ser Ser Ala Ile  
65 70 75 80

Ile Ser Phe Asp Leu Ser Asn Glu Ala Ser Lys Lys Tyr Lys Ile Ile  
85 90 95

Lys Leu Glu Phe Leu Ser Pro Asp Lys Gly Asn Phe Ile Asn Gln Leu  
100 105 110

Ser Ser Leu Thr Ser Gly Lys Gln Gln Ser Lys Lys Glu Leu Ala Lys  
115 120 125

Asp Ala Tyr Ser Phe Gly Thr Leu Arg Thr Glu Ser Leu Ser Lys Thr  
130 135 140

Ile Ala Glu Tyr Tyr Lys Asp Asn Asn Trp Tyr Tyr Ile Leu Ala Ala  
145 150 155 160

Ile Thr Val Glu Asn Asn Ile Asn Lys Glu Thr Glu Lys Tyr Glu Ile  
165 170 175

Arg Ile Asn Pro Lys Ile Tyr Asn Asp Phe Gln Lys Lys Leu Arg Leu  
180 185 190

His Phe Lys Ser Asn Gln Ile Lys Lys Phe Pro Ile Pro Ile Ile Glu  
 195 200 205

<210> 350  
 <211> 675  
 <212> DNA  
 <213> Homo sapiens

<400> 350  
 atgagcatta aaaaatttat ttttaaccttg ataattcttt ctctagctaa aaatagcttt 60  
 tctgaaaacg aaattaatat cttcgaaaac gaaaattata ttgtaaaaga aaatataaaa 120  
 acagaaatta aaaaactaaa acaaagtttt ttacttgcac ctggtgatgt cgccattagc 180  
 caaccctaca tagaattggc agatttaaat ggagaaccga taaaagaact tgaagggatt 240  
 agttattcat ttataaatgt attttcaaaa attggatcct ctgctattat ttcatttgac 300  
 ctatcaaacg aagcttccaa gaaatacaaaa atcataaaat tagaattttt aagtccagat 360  
 aaaggcaatt ttattaacca gctaagcagc cttactagtg gaaaacagca atcaaaaaaa 420  
 gagcttgcaa agacgctta ctcatttggg acattaagaa ctgaatctct ttcaaaaaaa 480  
 attgcagaat attacaaga taacaactgg tattatattt tagcagcaat aacagtagaa 540  
 aataatataa ataaagaaac tgaaaaatac gaaattagaa ttaaccctaa aatatataat 600  
 gattttcaaa aaaaattgag attacatttt aaaagcaacc aaataaaaaa atttccaata 660  
 cccattatag aataa 675

<210> 351  
 <211> 627  
 <212> DNA  
 <213> Homo sapiens

<400> 351  
 aaaaatagct tttctgaaaa cgaaattaat atcttcgaaa acgaaaatta tattgtaaaa 60  
 gaaaatataa aaacagaaat taaaaaacta aaacaaagt ttttacttgc atctgttgat 120  
 gtcgccatta gccaaccta catagaattg gcagatttaa atggagaacc gataaaagaa 180  
 cttgaaggga ttagtatttc atttataaat gtattttcaa aaattggatc ttctgctatt 240  
 atttcatttg acctatcaaa cgaagcttcc aagaaataca aaatcataaa attagaattt 300  
 ttaagtccag ataaaggcaa ttttattaac cagctaagca gccttactag tggaaaacag 360  
 caatcaaaaa aagagcttgc aaaagacgct tactcatttg gtacattaag aactgaatct 420  
 ctttcaaaaa caattgcaga atattacaaa gataacaact ggtattatat ttagcagca 480  
 ataacagtag aaaataatat aaataaagaa actgaaaaat acgaaattag aattaaccct 540  
 aaaatatata atgattttca aaaaaaattg agattacatt ttaaaagcaa ccaataaaaa 600  
 aaattttcaa taccattat agaataa 627

<210> 352  
 <211> 127  
 <212> PRT  
 <213> Homo sapiens

<400> 352  
 Met Lys Lys His Ile Ile Ile Gly Ile Ile Phe Val Ala Ile Leu Leu  
 1 5 10 15  
 Phe Phe Lys Ile Leu Leu Ile Pro Arg Ile Gln Asn His Glu Asn Asn  
 20 25 30  
 Lys Asn Asn Ile Lys Met Ile Ile Ser Tyr Lys Gln Asp Lys Asn Arg  
 35 40 45

Leu Ser Leu Lys Ile Asn Ile Lys Thr Lys Lys Thr Thr Asn Leu Gly  
50 55 60

Lys Ala Lys Leu Asp Ile Tyr Leu Asp Ser Lys Leu Ile Glu Ser Asn  
65 70 75 80

Leu Leu Tyr Ile Ser Ser Lys Asn Phe Thr Thr Tyr Ala Asn Ile Ile  
85 90 95

Tyr Gln Asn Glu Ser Leu Leu Ser Ile Ile Leu Lys Ser Asn Gly Asn  
100 105 110

Asn Asn Val Phe Tyr Ser Lys Arg Ile Lys Pro Arg Gly Lys Ile  
115 120 125

<210> 353

<211> 99

<212> PRT

<213> Homo sapiens

<400> 353

His Glu Asn Asn Lys Asn Asn Ile Lys Met Ile Ile Ser Tyr Lys Gln  
1 5 10 15

Asp Lys Asn Arg Leu Ser Leu Lys Ile Asn Ile Lys Thr Lys Lys Thr  
20 25 30

Thr Asn Leu Gly Lys Ala Lys Leu Asp Ile Tyr Leu Asp Ser Lys Leu  
35 40 45

Ile Glu Ser Asn Leu Leu Tyr Ile Ser Ser Lys Asn Phe Thr Thr Tyr  
50 55 60

Ala Asn Ile Ile Tyr Gln Asn Glu Ser Leu Leu Ser Ile Ile Leu Lys  
65 70 75 80

Ser Asn Gly Asn Asn Asn Val Phe Tyr Ser Lys Arg Ile Lys Pro Arg  
85 90 95

Gly Lys Ile

<210> 354

<211> 384

<212> DNA

<213> Homo sapiens

<400> 354

atgaaaaaac atatcattat tgggataatc tttgttgcaa ttcttttatt ttttaaaatt 60  
ttattaattc ccagaattca aaatcacgaa aataataaaa ataatatcaa aatgataata 120  
agctacaagc aagacaaaaa cagattatcg cttaaagataa acataaaaaac aaaaaaaact 180  
accaacctgg gaaaagccaa actagatatt tatctagaca gttaaattaat tgaaagcaat 240  
ttgcttttata taagcagcaa aaactttaca acatatgcta atataatcta tcaaaatgaa 300  
agttttattaa gtataatatt aaagagtaat ggcaataata atgtctttta tagtaaaaga 360  
ataaaaccta gaggtaaaat atga 384

<210> 355

<211> 300



&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 355

cacgaaaata ataaaaataa tatcaaaatg ataataagct acaagcaaga caaaaacaga 60  
 ttatcgctaa agataaacat aaaaacaaaa aaaactacca acctgggaaa agccaaacta 120  
 gatatttatac tagacagtaa attaattgaa agcaatttgc tttatataag cagcaaaaac 180  
 tttaacaacat atgctaatat aatctatcaa aatgaaagtt tattaagtat aatattaaag 240  
 agtaatggca ataataatgt cttttatagt aaaagaataa aacctagagg taaaatatga 300

&lt;210&gt; 356

&lt;211&gt; 378

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 356

Met Lys Lys His Tyr Lys Ala Leu Ile Leu Ser Leu Leu Phe Ala Ile  
 1 5 10 15

Ile Ser Cys Asn Thr Lys Thr Leu Asn Glu Leu Gly Glu Glu Gln Phe  
 20 25 30

Lys Ile Pro Phe Gly Thr Leu Pro Gly Ala Ile Met Pro Leu Asn Asn  
 35 40 45

Lys Phe Thr Asn Ser Lys Phe Asp Ile Lys Thr Tyr Asn Gly Leu Val  
 50 55 60

Tyr Ile Ala Glu Ile Lys Thr Asn Lys Leu Met Ile Phe Asn Ser Tyr  
 65 70 75 80

Gly Lys Leu Ile Gln Thr Tyr Gln Asn Gly Ile Phe Lys Thr Asn Pro  
 85 90 95

Asp Leu Lys Ile Lys Lys Ile Asp Phe Glu Gly Ile Gln Ala Ile Tyr  
 100 105 110

Pro Leu Lys Asp Phe Ile Ile Val Ala Asp Lys Leu Asn Asn Lys Lys  
 115 120 125

Ser Lys Phe Asn Gln Lys Glu Asn Ile Ala Tyr Phe Met Arg Ile Leu  
 130 135 140

Ile Leu Asn Lys Asn Ser Ser Val Glu Ile Leu Gly Gln Glu Gly Leu  
 145 150 155 160

Asn Gly Met Pro Phe Pro Gln Ile Tyr Asp Val Asn Val Asp Glu Asn  
 165 170 175

Gly Asn Ile Ala Ile Ile Ser Ile Tyr Ser Glu Gly Tyr Ile Ile Tyr  
 180 185 190

Ser Tyr Asn Lys Glu Phe Ser Pro Leu Tyr Lys Ile Tyr Val Asn Lys  
 195 200 205

Asn Leu Leu Lys Thr Ile Asp Asn Gln Lys Lys Lys Tyr Asn Ile Ser  
 210 215 220

Ile Asp Lys Val Phe Phe Glu Val Asn Lys Lys Thr Leu Tyr Val Lys  
225 230 235 240

Thr Thr Tyr Tyr Glu Asn Ile Gly Asp Asn Glu Asn Ile Asn Asp Leu  
245 250 255

Gly Ile Lys Ile Lys Asp Gln Tyr Ile Tyr Lys Met Ser Leu Lys Lys  
260 265 270

Asn Lys Glu Leu Glu Val Ile Asn Lys Ile Ala Leu Pro Lys Asn Leu  
275 280 285

Leu Asp Asp Lys Gln Glu Ser Phe Ile Asn Ile Ile Lys Ile Gln Lys  
290 295 300

Asp Lys Ile Ile Ala Ser Thr Asn Met Lys Asn Leu Ser Asn Asn Leu  
305 310 315 320

Ile Trp Lys Leu Asp Ser Lys Gly Ser Ile Lys Glu Gln Ile Ala Leu  
325 330 335

Ile Glu Pro Pro Asn Leu Met Phe Leu Ser Glu Ser Leu Ser Lys Asp  
340 345 350

Gly Ile Leu Ser Ile Leu Tyr Gly Gly Lys Thr Gly Val Ser Val Tyr  
355 360 365

Trp Trp Asn Leu Asn Ala Leu Leu Lys Leu  
370 375

<210> 357

<211> 357

<212> PRT

<213> Homo sapiens

<400> 357

Lys Thr Leu Asn Glu Leu Gly Glu Glu Gln Phe Lys Ile Pro Phe Gly  
1 5 10 15

Thr Leu Pro Gly Ala Ile Met Pro Leu Asn Asn Lys Phe Thr Asn Ser  
20 25 30

Lys Phe Asp Ile Lys Thr Tyr Asn Gly Leu Val Tyr Ile Ala Glu Ile  
35 40 45

Lys Thr Asn Lys Leu Met Ile Phe Asn Ser Tyr Gly Lys Leu Ile Gln  
50 55 60

Thr Tyr Gln Asn Gly Ile Phe Lys Thr Asn Pro Asp Leu Lys Ile Lys  
65 70 75 80

Lys Ile Asp Phe Glu Gly Ile Gln Ala Ile Tyr Pro Leu Lys Asp Phe  
85 90 95

Ile Ile Val Ala Asp Lys Leu Asn Asn Lys Lys Ser Lys Phe Asn Gln  
100 105 110

Lys Glu Asn Ile Ala Tyr Phe Met Arg Ile Leu Ile Leu Asn Lys Asn

115                      120                      125  
 Ser Ser Val Glu Ile Leu Gly Gln Glu Gly Leu Asn Gly Met Pro Phe  
 130                      135                      140  
 Pro Gln Ile Tyr Asp Val Asn Val Asp Glu Asn Gly Asn Ile Ala Ile  
 145                      150                      155                      160  
 Ile Ser Ile Tyr Ser Glu Gly Tyr Ile Ile Tyr Ser Tyr Asn Lys Glu  
 165                      170                      175  
 Phe Ser Pro Leu Tyr Lys Ile Tyr Val Asn Lys Asn Leu Leu Lys Thr  
 180                      185                      190  
 Ile Asp Asn Gln Lys Lys Lys Tyr Asn Ile Ser Ile Asp Lys Val Phe  
 195                      200                      205  
 Phe Glu Val Asn Lys Lys Thr Leu Tyr Val Lys Thr Thr Tyr Tyr Glu  
 210                      215                      220  
 Asn Ile Gly Asp Asn Glu Asn Ile Asn Asp Leu Gly Ile Lys Ile Lys  
 225                      230                      235                      240  
 Asp Gln Tyr Ile Tyr Lys Met Ser Leu Lys Lys Asn Lys Glu Leu Glu  
 245                      250                      255  
 Val Ile Asn Lys Ile Ala Leu Pro Lys Asn Leu Leu Asp Asp Lys Gln  
 260                      265                      270  
 Glu Ser Phe Ile Asn Ile Ile Lys Ile Gln Lys Asp Lys Ile Ile Ala  
 275                      280                      285  
 Ser Thr Asn Met Lys Asn Leu Ser Asn Asn Leu Ile Trp Lys Leu Asp  
 290                      295                      300  
 Ser Lys Gly Ser Ile Lys Glu Gln Ile Ala Leu Ile Glu Pro Pro Asn  
 305                      310                      315                      320  
 Leu Met Phe Leu Ser Glu Ser Leu Ser Lys Asp Gly Ile Leu Ser Ile  
 325                      330                      335  
 Leu Tyr Gly Gly Lys Thr Gly Val Ser Val Tyr Trp Trp Asn Leu Asn  
 340                      345                      350  
 Ala Leu Leu Lys Leu  
 355

&lt;210&gt; 358

&lt;211&gt; 1137

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 358

atgaaaaaac actataaagc tcttatatta agcttgcttt ttgcaattat atcatgtaat 60  
 actaaaactt taaacgaatt aggagaagaa caatttaaaa taccatttgg aacacttcct 120  
 ggtgcaataa tgcctctgaa taacaaatctt acaaattcaa aatttgacat caaacgtat 180  
 aacgggctag tgtacattgc agaaataaaa acaaataaat taatgatttt caactcatat 240  
 ggaaaactaa tacaacata tcaaaatgga atatttaaaa caaaccccgga tttaaaaaata 300

```

aaaaaaatag attttgaagg aattcaagca atatacccac taaaagattt tattattgtc 360
gcagacaaac taaataataa aaaatcaaaa ttcaacccaa aagagaatat tgcctacttc 420
atgagaatac taatactaaa caaaaactca tctgtagaaa ttttgggtca agaagggtta 480
aacggaatgc catttccaca aatttatgat gttaatgttg atgaaaatgg caacattgca 540
ataatatcaa tatatagcga aggatatata atatatctctt acaataaaga attttccccg 600
ctttataaaa tttacgtcaa caaaaacctg ttaaaaacaa tagacaatca aaagaaaaaa 660
tacaacattt caatagataa gggttttttt gaagtcaaca aaaaaactct ttatgtaaaa 720
actacttact atgaaaacat tgggtgacaat gaaaatataa acgatcttgg aattaaaaatt 780
aaagatcaat atatctataa aatgagtttg aaaaaaaca aagaattaga agtgataaat 840
aaaattgtct ttcctaaaaa cttactagat gataaacaag aaagctttat aaacattata 900
aaaatacaaa aagacaaaat aatagcatct actaatatga aaaatttatc taacaattta 960
atatggaaat tagacagcaa gggctcaatt aaagaacaaa tagctttaat tgagcctcca 1020
aatttaatgt ttctctctga gagtttatct aaagatggaa tacttagtat actttatggc 1080
ggaaaaactg gtgttagtgt ttactgggtg aatttaaatg cattattaaa attataa 1137

```

&lt;210&gt; 359

&lt;211&gt; 1074

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 359

```

aaaactttta acgaattagg agaagaacaa tttaaaatac catttggaaac acttcctggt 60
gcaataatgc ctctgaataa caaattttaca aattcaaaat ttgacatcaa aacgtataac 120
gggctagtgt acattgcaga aataaaaaaca aataaattaa tgattttcaa ctcatcggga 180
aaactaatac aaacatatca aaatggaata tttaaaacaa accccgattt aaaaataaaa 240
aaaatagatt ttgaaggaat tcaagcaata taccactaa aagattttat tattgtcgca 300
gacaaactaa ataataaaaa atcaaaattc aacccaaaag agaattattg ctacttcatg 360
agaatactaa tactaaacaa aaactcatct gtagaaattt tgggtcaaga aggtttaaac 420
ggaaatgccat ttccacaaat ttatgatgtt aatgttgatg aaaatggcaa cattgcaata 480
atatcaatat atagcgaagg atatataata tattcttaca ataaagaatt ttccccgctt 540
tataaaattt acgtcaacaa aaacctgtta aaaacaatag acaatcaaaa gaaaaaatat 600
aacattttcaa tagataaggt tttttttgaa gtcaacaaaa aaactcttta tgtaaaaact 660
acttactatg aaaacatttg tgacaatgaa aatataaacg atcttggaa taaaattaaa 720
gatcaatata tctataaaat gagtttgaaa aaaaacaaag aattagaagt gataaataaa 780
attgctcttc ctaaaaactt actagatgat aaacaagaaa gctttataaa cattataaaa 840
atacaaaaag acaaaaataat agcatctact aatatgaaaa atttatctaa caatttaata 900
tggaatttag acagcaaggg ctcaattaaa gaacaaatag ctttaattga gcctccaaat 960
ttaatgtttc tctctgagag tttatctaaa gatggaatac ttagtatact ttatggcgga 1020
aaaactggtg ttagtggtta ctggtggaat ttaaatgcat tattaataat ataa 1074

```

&lt;210&gt; 360

&lt;211&gt; 290

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 360

```

Met Tyr Lys Leu Phe Leu Phe Phe Ile Ile Phe Met Phe Leu Ser Cys
  1             5             10             15

```

```

Asp Glu Lys Lys Ser Ser Lys Asn Leu Lys Ser Val Lys Ile Gly Tyr
      20             25             30

```

```

Val Asn Trp Gly Gly Glu Thr Ala Ala Thr Asn Val Leu Lys Val Val
      35             40             45

```

```

Phe Glu Lys Met Gly Tyr Asn Ala Glu Ile Phe Ser Val Thr Thr Ser
      50             55             60

```

Ile Met Tyr Gln Tyr Leu Ala Ser Gly Lys Ile Asp Gly Thr Val Ser  
 65 70 75 80  
 Ser Trp Val Pro Thr Ala Asp Lys Phe Tyr Tyr Glu Lys Leu Lys Thr  
 85 90 95  
 Lys Phe Val Asp Leu Gly Ala Asn Tyr Glu Gly Thr Ile Gln Gly Phe  
 100 105 110  
 Val Val Pro Ser Tyr Val Pro Ile Ser Ser Ile Ser Glu Leu Lys Gly  
 115 120 125  
 Lys Gly Asp Lys Phe Lys Asn Lys Met Ile Gly Ile Asp Ala Gly Ala  
 130 135 140  
 Gly Thr Gln Ile Val Thr Glu Gln Ala Leu Asn Tyr Tyr Gly Leu Ser  
 145 150 155 160  
 Lys Glu Tyr Glu Leu Val Pro Ser Ser Glu Ser Val Met Leu Ala Ser  
 165 170 175  
 Leu Asp Ser Ser Ile Lys Arg Asn Glu Trp Ile Leu Val Pro Leu Trp  
 180 185 190  
 Lys Pro His Trp Ala Phe Ser Arg Tyr Asp Ile Lys Phe Leu Asp Asp  
 195 200 205  
 Pro Asp Leu Ile Met Gly Gly Ile Glu Ser Val His Thr Leu Val Arg  
 210 215 220  
 Leu Gly Leu Glu Asn Asp Asp Phe Asp Ala Tyr Tyr Val Phe Asp His  
 225 230 235 240  
 Phe Tyr Trp Ser Asp Asp Leu Ile Leu Pro Leu Met Asp Lys Asn Asp  
 245 250 255  
 Lys Glu Pro Gly Lys Glu Tyr Arg Asn Ala Val Glu Phe Val Glu Lys  
 260 265 270  
 Asn Lys Glu Ile Val Lys Thr Trp Val Pro Glu Lys Tyr Lys Thr Leu  
 275 280 285  
 Phe Asp  
 290

<210> 361  
 <211> 275  
 <212> PRT  
 <213> Homo sapiens

<400> 361  
 Cys Asp Glu Lys Lys Ser Ser Lys Asn Leu Lys Ser Val Lys Ile Gly  
 1 5 10 15  
 Tyr Val Asn Trp Gly Gly Glu Thr Ala Ala Thr Asn Val Leu Lys Val  
 20 25 30  
 Val Phe Glu Lys Met Gly Tyr Asn Ala Glu Ile Phe Ser Val Thr Thr

35	40	45
Ser Ile Met Tyr Gln Tyr Leu Ala Ser Gly Lys Ile Asp Gly Thr Val		
50	55	60
Ser Ser Trp Val Pro Thr Ala Asp Lys Phe Tyr Tyr Glu Lys Leu Lys		
65	70	75
Thr Lys Phe Val Asp Leu Gly Ala Asn Tyr Glu Gly Thr Ile Gln Gly		
	85	90
Phe Val Val Pro Ser Tyr Val Pro Ile Ser Ser Ile Ser Glu Leu Lys		
	100	105
Gly Lys Gly Asp Lys Phe Lys Asn Lys Met Ile Gly Ile Asp Ala Gly		
	115	120
Ala Gly Thr Gln Ile Val Thr Glu Gln Ala Leu Asn Tyr Tyr Gly Leu		
	130	135
Ser Lys Glu Tyr Glu Leu Val Pro Ser Ser Glu Ser Val Met Leu Ala		
145	150	155
Ser Leu Asp Ser Ser Ile Lys Arg Asn Glu Trp Ile Leu Val Pro Leu		
	165	170
Trp Lys Pro His Trp Ala Phe Ser Arg Tyr Asp Ile Lys Phe Leu Asp		
	180	185
Asp Pro Asp Leu Ile Met Gly Gly Ile Glu Ser Val His Thr Leu Val		
	195	200
Arg Leu Gly Leu Glu Asn Asp Asp Phe Asp Ala Tyr Tyr Val Phe Asp		
	210	215
His Phe Tyr Trp Ser Asp Asp Leu Ile Leu Pro Leu Met Asp Lys Asn		
225	230	235
Asp Lys Glu Pro Gly Lys Glu Tyr Arg Asn Ala Val Glu Phe Val Glu		
	245	250
Lys Asn Lys Glu Ile Val Lys Thr Trp Val Pro Glu Lys Tyr Lys Thr		
	260	265
Leu Phe Asp		
275		

&lt;210&gt; 362

&lt;211&gt; 873

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 362

```

atgtataaat tttttttatt ttttattatt tttatgtttt tgtcttgtga tgaaaaaaag 60
agttcaaaga atttaaaatc ggtaaaaatt ggatatgtga attgggggtg agaaacggca 120
gctacaaatg tattaaaggt tgtttttgag aaaatgggct acaatgcaga aatattttca 180
gttactacgt ctataatgta tcaatactta gcatctggaa agatagacgg tacgggtgtct 240
tcttgggttc ctacagccga taaattttat tatgaaaaac tgaaaacaaa gtttgttgat 300

```

```

cttgggtgcaa attatgaagg aaccattcaa ggttttgtgg tgccaagcta tgttccaatt 360
tccagcatta gtgagcttaa gggtaaagg gataagttta aaaacaaaat gattggcata 420
gatgctgggtg cgggaactca aattgttaca gaacaagcgc ttaattatta tggattaagt 480
aaagagtatg agctagttcc ttcaagttag agtggtatgc ttgcaagttt agattcttca 540
ataaagagaa acgaatggat tttagttcct ttgtggaagc ctcatgtggc tttttctagg 600
tatgatatta agtttcttga tgatcctgat ttaattatgg ggggaattga gagcgtgcat 660
actcttggtt gacttggtct tgaaaatgat gattttgatg cataattatgt ttttgatcat 720
ttttattgga gcgatgattt aatattgccc ttaattggata aaaatgataa agagccaggc 780
aaagaatacc gcaatgcggt tgaatttggt gaaaagaata aagagattgt aaagacgtgg 840
gttccagaaa aatataagac cttatttgat taa 873

```

<210> 363

<211> 828

<212> DNA

<213> Homo sapiens

<400> 363

```

tgtgatgaaa aaaagagttc aaagaattta aaatcggtta aaattggata tgtgaattgg 60
gggtggagaaa cggcagctac aaatgtatta aaggttggtt ttgagaaaat gggctacaat 120
gcagaaatat tttcagttac tacgtctata atgtatcaat acttagcatc tggaaagata 180
gacggtagcg tgcttcttg ggctcctaca gccgataaat tttattatga aaaactgaaa 240
acaaagtttg ttgatcttgg tgcaaattat gaaggaacca ttcaaggttt tgtggtgcca 300
agctatgttc caatttccag cattagttag cttaagggtta aaggtagata gtttaaaaac 360
aaaatgattg gcatagatgc tggtagcgga actcaaattg ttacagaaca agcgcttaat 420
tattatggat taagtaaaga gtatgagcta gttccttcaa gtgagagtgt tatgcttgca 480
agtttagatt cttcaataaa gagaaacgaa tggatttttag ttcctttgtg gaagcctcat 540
tgggcttttt ctaggtatga tattaagttt cttgatgac ctgatttaat tatgggggga 600
attgagagcg tgcatactct tgtagactt ggtcttgaaa atgatgattt tgatgcatat 660
tatgtttttg atcattttta ttggagcgat gatttaatat tgccttaat ggataaaaaat 720
gataaagagc caggcaaaga ataccgcaat gcggttgaat ttgttgaaaa gaataaagag 780
attgtaaaga cgtgggttcc agaaaaatat aagaccttat ttgattaa 828

```

<210> 364

<211> 1036

<212> PRT

<213> Homo sapiens

<400> 364

```

Met Leu Val Lys Arg Ile Val Gly Lys Pro Ile Thr Met Leu Ile Leu
  1           5           10           15

```

```

Phe Ser Leu Leu Leu Met Ile Ser Leu Tyr Thr Phe Ser Arg Leu Lys
          20           25           30

```

```

Val Asp Leu Leu Pro Gly Ile Asp Ile Pro Gln Ile Ser Ile His Thr
          35           40           45

```

```

Val Tyr Pro Gly Ala Ser Pro Arg Glu Val Glu Glu Ser Val Ser Arg
          50           55           60

```

```

Val Leu Glu Ser Gly Leu Ser Ser Val Lys Asn Leu Lys Asn Ile Tyr
          65           70           75           80

```

```

Ser Val Ser Ser Lys Glu Ser Ser Thr Val Ser Leu Glu Phe Tyr His
          85           90           95

```

```

Gly Thr Asp Leu Asp Leu Val Leu Asn Glu Ile Arg Asp Ala Leu Glu
          100          105          110

```

Leu Val Lys Ser Ser Leu Pro Ser Lys Ser Gln Thr Pro Arg Ile Phe  
 115 120 125  
 Arg Tyr Asn Leu Lys Asn Ile Pro Val Met Glu Ile Val Ile Asn Ser  
 130 135 140  
 Val Arg Pro Val Ser Glu Leu Lys Arg Tyr Ala Asp Glu Ile Ile Lys  
 145 150 155 160  
 Pro Gly Leu Glu Arg Leu Asp Gly Val Ala Ile Val Thr Val Asn Gly  
 165 170 175  
 Gly Ser Lys Lys Arg Val Leu Ile Glu Val Ser Gln Asn Arg Leu Glu  
 180 185 190  
 Ser Tyr Gly Leu Ser Leu Ser Arg Ile Ser Ser Ile Ile Ala Ser Gln  
 195 200 205  
 Asn Leu Glu Leu Ser Ala Gly Asn Ile Leu Glu Asn Asn Leu Glu Tyr  
 210 215 220  
 Leu Val Glu Val Ser Gly Lys Phe Lys Ser Ile Glu Glu Ile Gly Asn  
 225 230 235 240  
 Val Val Ile Ala Tyr Lys Ile Pro Asp Ile Ser Ser Gly Ile Asn Leu  
 245 250 255  
 Ser Pro Ile Glu Ile Lys Leu Lys Asp Ile Ala Asn Ile Lys Thr Asp  
 260 265 270  
 Phe Glu Asp Leu Ser Glu Tyr Val Glu Tyr Asn Gly Leu Pro Ser Ile  
 275 280 285  
 Ser Leu Ser Val Gln Lys Arg Ser Asp Ser Asn Ser Ile Ala Val Ser  
 290 295 300  
 Asn Val Val Met Asn Glu Ile Glu Lys Leu Lys Leu Ser Met Pro Lys  
 305 310 315 320  
 Asp Met Lys Leu Glu Ile Ala Ser Asp Ser Thr Asp Phe Ile Lys Ala  
 325 330 335  
 Ser Ile Ser Thr Val Val Asn Ser Ala Tyr Phe Gly Ala Met Leu Ala  
 340 345 350  
 Ile Phe Val Ile Phe Phe Phe Leu Arg Ser Phe Arg Ala Thr Ile Ile  
 355 360 365  
 Ile Gly Ile Ser Ile Pro Ile Ala Ile Val Leu Thr Phe Cys Leu Met  
 370 375 380  
 Tyr Phe Val Asn Ile Ser Leu Asn Ile Met Ser Leu Ala Gly Leu Ala  
 385 390 395 400  
 Leu Gly Ile Gly Met Val Val Asp Cys Ser Ile Val Val Ile Asp Asn  
 405 410 415



Ile Tyr Lys Tyr Arg Gln Lys Gly Ala Lys Leu Ile Ser Ser Ser Ile  
 420 425 430  
 Leu Gly Ala Gln Glu Met Met Leu Pro Ile Thr Ser Ser Thr Phe Thr  
 435 440 445  
 Ser Ile Cys Val Phe Gly Pro Phe Leu Ile Phe Lys Ser Glu Leu Gly  
 450 455 460  
 Val Tyr Gly Asp Phe Phe Lys Asp Phe Thr Phe Thr Ile Val Ile Ser  
 465 470 475 480  
 Leu Gly Val Ser Leu Leu Val Ala Ile Phe Leu Val Pro Val Leu Ser  
 485 490 495  
 Ser His Tyr Val Gly Leu Tyr Thr Ser Phe Gln Lys Asn Ile Lys Asn  
 500 505 510  
 Ala Phe Ile Arg Lys Ile Asp Ala Phe Phe Ala Ser Ile Tyr Tyr Phe  
 515 520 525  
 Leu Glu Phe Leu Tyr Ile Asn Leu Leu Asn Ile Val Leu Asn His Lys  
 530 535 540  
 Leu Ile Phe Gly Leu Ile Val Phe Phe Ser Phe Ile Gly Ser Leu Leu  
 545 550 555 560  
 Leu Gly Leu Leu Leu Asp Val Thr Thr Phe Thr Arg Gly Lys Glu Asn  
 565 570 575  
 Ser Ile Thr Ile Asn Leu Asn Phe Pro His Lys Thr Asn Leu Glu Tyr  
 580 585 590  
 Ala Lys Phe Tyr Ser Asn Arg Phe Leu Glu Ile Val Lys Ser Glu Ala  
 595 600 605  
 Lys Gly Tyr Lys Ser Ile Ile Ala Thr Leu Arg Ala Asp Arg Ile Thr  
 610 615 620  
 Phe Asn Val Leu Phe Pro Leu Lys Glu Glu Ser Arg Asp Asn Leu Thr  
 625 630 635 640  
 Gln Ser Val Asp Tyr Asp Ser Ile Lys Tyr Lys Ile Met Asn Arg Ile  
 645 650 655  
 Gly Asn Leu Tyr Pro Glu Phe Asn Ile Glu Pro Ser Ile Ser Gly Asn  
 660 665 670  
 Ala Leu Gly Gly Gly Asp Ser Ile Lys Ile Lys Ile Ser Ala Asn Asp  
 675 680 685  
 Phe Glu Tyr Ile Lys Asp Tyr Gly Lys Ile Leu Val Ser Met Leu Lys  
 690 695 700  
 Lys Glu Ile Pro Glu Leu Val Asn Pro Arg Leu Ser Ile Ser Asp Phe  
 705 710 715 720  
 Gln Leu Gln Ile Gly Val Glu Ile Asp Arg Ala Leu Val Tyr Asn Tyr

725					730					735					
Gly	Ile	Asp	Met	Asn	Thr	Ile	Leu	Asn	Glu	Leu	Lys	Ala	Asn	Ile	Asn
			740					745					750		
Gly	Val	Val	Ala	Gly	Gln	Tyr	Val	Glu	Lys	Gly	Leu	Asn	Tyr	Asp	Ile
		755					760					765			
Val	Leu	Lys	Leu	Asp	Arg	Met	Asp	Val	Lys	Asn	Leu	Lys	Asp	Leu	Glu
		770				775					780				
Lys	Ile	Phe	Ile	Thr	Asn	Ser	Ser	Gly	Val	Lys	Ile	Pro	Phe	Ser	Ser
	785					790					795				800
Ile	Ala	Thr	Phe	Glu	Lys	Thr	Asn	Lys	Ala	Glu	Ser	Ile	Tyr	Arg	Glu
				805					810					815	
Asn	Gln	Ala	Leu	Thr	Ile	Tyr	Leu	Asn	Ala	Gly	Ile	Ser	Pro	Asp	Asp
			820					825					830		
Asn	Leu	Thr	Gln	Val	Thr	Ala	Lys	Val	Val	Asp	Phe	Ile	Asn	Asn	Lys
		835					840					845			
Val	Pro	His	Lys	Glu	Gly	Ile	Thr	Leu	Lys	Val	Glu	Gly	Glu	Tyr	Asn
		850					855				860				
Glu	Phe	Ser	Asn	Ile	Met	Asn	Gln	Phe	Lys	Ile	Ile	Ile	Met	Met	Ala
	865					870					875				880
Ile	Ile	Val	Val	Phe	Gly	Ile	Met	Ala	Ser	Gln	Phe	Glu	Ser	Phe	Leu
				885					890					895	
Lys	Pro	Phe	Ile	Ile	Ile	Phe	Thr	Ile	Pro	Leu	Thr	Ala	Ile	Gly	Val
			900					905					910		
Val	Leu	Ile	His	Phe	Leu	Ala	Gly	Glu	Lys	Leu	Ser	Ile	Phe	Ala	Ala
		915					920					925			
Ile	Gly	Met	Leu	Met	Leu	Val	Gly	Val	Val	Val	Asn	Thr	Gly	Ile	Val
	930					935					940				
Leu	Val	Asp	Tyr	Thr	Gly	Leu	Leu	Ile	Lys	Arg	Gly	Phe	Gly	Leu	Arg
	945					950					955				960
Glu	Ala	Ile	Ile	Glu	Ser	Cys	Arg	Ser	Arg	Leu	Arg	Pro	Ile	Leu	Met
				965					970					975	
Ser	Ser	Leu	Thr	Ser	Ile	Ile	Gly	Leu	Ile	Pro	Met	Ala	Phe	Ser	Ser
			980					985					990		
Gly	Ser	Gly	Asn	Glu	Leu	Leu	Lys	Pro	Ile	Ala	Phe	Thr	Phe	Ile	Gly
		995					1000					1005			
Gly	Met	Thr	Ala	Ser	Thr	Phe	Leu	Thr	Leu	Phe	Phe	Ile	Pro	Met	Leu
	1010					1015					1020				
Phe	Glu	Ile	Phe	Pro	Thr	Cys	Phe	Lys	Phe	Gln	Ile				
	025					1030					1035				

<210> 365  
 <211> 1007  
 <212> PRT  
 <213> Homo sapiens

<400> 365

Arg	Leu	Lys	Val	Asp	Leu	Leu	Pro	Gly	Ile	Asp	Ile	Pro	Gln	Ile	Ser	1	5	10	15
Ile	His	Thr	Val	Tyr	Pro	Gly	Ala	Ser	Pro	Arg	Glu	Val	Glu	Glu	Ser	20	25	30	
Val	Ser	Arg	Val	Leu	Glu	Ser	Gly	Leu	Ser	Ser	Val	Lys	Asn	Leu	Lys	35	40	45	
Asn	Ile	Tyr	Ser	Val	Ser	Ser	Lys	Glu	Ser	Ser	Thr	Val	Ser	Leu	Glu	50	55	60	
Phe	Tyr	His	Gly	Thr	Asp	Leu	Asp	Leu	Val	Leu	Asn	Glu	Ile	Arg	Asp	65	70	75	80
Ala	Leu	Glu	Leu	Val	Lys	Ser	Ser	Leu	Pro	Ser	Lys	Ser	Gln	Thr	Pro	85	90	95	
Arg	Ile	Phe	Arg	Tyr	Asn	Leu	Lys	Asn	Ile	Pro	Val	Met	Glu	Ile	Val	100	105	110	
Ile	Asn	Ser	Val	Arg	Pro	Val	Ser	Glu	Leu	Lys	Arg	Tyr	Ala	Asp	Glu	115	120	125	
Ile	Ile	Lys	Pro	Gly	Leu	Glu	Arg	Leu	Asp	Gly	Val	Ala	Ile	Val	Thr	130	135	140	
Val	Asn	Gly	Gly	Ser	Lys	Lys	Arg	Val	Leu	Ile	Glu	Val	Ser	Gln	Asn	145	150	155	160
Arg	Leu	Glu	Ser	Tyr	Gly	Leu	Ser	Leu	Ser	Arg	Ile	Ser	Ser	Ile	Ile	165	170	175	
Ala	Ser	Gln	Asn	Leu	Glu	Leu	Ser	Ala	Gly	Asn	Ile	Leu	Glu	Asn	Asn	180	185	190	
Leu	Glu	Tyr	Leu	Val	Glu	Val	Ser	Gly	Lys	Phe	Lys	Ser	Ile	Glu	Glu	195	200	205	
Ile	Gly	Asn	Val	Val	Ile	Ala	Tyr	Lys	Ile	Pro	Asp	Ile	Ser	Ser	Gly	210	215	220	
Ile	Asn	Leu	Ser	Pro	Ile	Glu	Ile	Lys	Leu	Lys	Asp	Ile	Ala	Asn	Ile	225	230	235	240
Lys	Thr	Asp	Phe	Glu	Asp	Leu	Ser	Glu	Tyr	Val	Glu	Tyr	Asn	Gly	Leu	245	250	255	
Pro	Ser	Ile	Ser	Leu	Ser	Val	Gln	Lys	Arg	Ser	Asp	Ser	Asn	Ser	Ile	260	265	270	

Ala Val Ser Asn Val Val Met Asn Glu Ile Glu Lys Leu Lys Leu Ser  
 275 280 285  
 Met Pro Lys Asp Met Lys Leu Glu Ile Ala Ser Asp Ser Thr Asp Phe  
 290 295 300  
 Ile Lys Ala Ser Ile Ser Thr Val Val Asn Ser Ala Tyr Phe Gly Ala  
 305 310 315 320  
 Met Leu Ala Ile Phe Val Ile Phe Phe Phe Leu Arg Ser Phe Arg Ala  
 325 330 335  
 Thr Ile Ile Ile Gly Ile Ser Ile Pro Ile Ala Ile Val Leu Thr Phe  
 340 345 350  
 Cys Leu Met Tyr Phe Val Asn Ile Ser Leu Asn Ile Met Ser Leu Ala  
 355 360 365  
 Gly Leu Ala Leu Gly Ile Gly Met Val Val Asp Cys Ser Ile Val Val  
 370 375 380  
 Ile Asp Asn Ile Tyr Lys Tyr Arg Gln Lys Gly Ala Lys Leu Ile Ser  
 385 390 395 400  
 Ser Ser Ile Leu Gly Ala Gln Glu Met Met Leu Pro Ile Thr Ser Ser  
 405 410 415  
 Thr Phe Thr Ser Ile Cys Val Phe Gly Pro Phe Leu Ile Phe Lys Ser  
 420 425 430  
 Glu Leu Gly Val Tyr Gly Asp Phe Phe Lys Asp Phe Thr Phe Thr Ile  
 435 440 445  
 Val Ile Ser Leu Gly Val Ser Leu Leu Val Ala Ile Phe Leu Val Pro  
 450 455 460  
 Val Leu Ser Ser His Tyr Val Gly Leu Tyr Thr Ser Phe Gln Lys Asn  
 465 470 475 480  
 Ile Lys Asn Ala Phe Ile Arg Lys Ile Asp Ala Phe Phe Ala Ser Ile  
 485 490 495  
 Tyr Tyr Phe Leu Glu Phe Leu Tyr Ile Asn Leu Leu Asn Ile Val Leu  
 500 505 510  
 Asn His Lys Leu Ile Phe Gly Leu Ile Val Phe Phe Ser Phe Ile Gly  
 515 520 525  
 Ser Leu Leu Leu Gly Leu Leu Leu Asp Val Thr Thr Phe Thr Arg Gly  
 530 535 540  
 Lys Glu Asn Ser Ile Thr Ile Asn Leu Asn Phe Pro His Lys Thr Asn  
 545 550 555 560  
 Leu Glu Tyr Ala Lys Phe Tyr Ser Asn Arg Phe Leu Glu Ile Val Lys  
 565 570 575  
 Ser Glu Ala Lys Gly Tyr Lys Ser Ile Ile Ala Thr Leu Arg Ala Asp

580					585					590					
Arg	Ile	Thr	Phe	Asn	Val	Leu	Phe	Pro	Leu	Lys	Glu	Glu	Ser	Arg	Asp
	595						600					605			
Asn	Leu	Thr	Gln	Ser	Val	Asp	Tyr	Asp	Ser	Ile	Lys	Tyr	Lys	Ile	Met
	610					615					620				
Asn	Arg	Ile	Gly	Asn	Leu	Tyr	Pro	Glu	Phe	Asn	Ile	Glu	Pro	Ser	Ile
625					630					635					640
Ser	Gly	Asn	Ala	Leu	Gly	Gly	Gly	Asp	Ser	Ile	Lys	Ile	Lys	Ile	Ser
				645					650					655	
Ala	Asn	Asp	Phe	Glu	Tyr	Ile	Lys	Asp	Tyr	Gly	Lys	Ile	Leu	Val	Ser
			660					665					670		
Met	Leu	Lys	Lys	Glu	Ile	Pro	Glu	Leu	Val	Asn	Pro	Arg	Leu	Ser	Ile
	675						680					685			
Ser	Asp	Phe	Gln	Leu	Gln	Ile	Gly	Val	Glu	Ile	Asp	Arg	Ala	Leu	Val
	690					695					700				
Tyr	Asn	Tyr	Gly	Ile	Asp	Met	Asn	Thr	Ile	Leu	Asn	Glu	Leu	Lys	Ala
705				710						715					720
Asn	Ile	Asn	Gly	Val	Val	Ala	Gly	Gln	Tyr	Val	Glu	Lys	Gly	Leu	Asn
			725					730						735	
Tyr	Asp	Ile	Val	Leu	Lys	Leu	Asp	Arg	Met	Asp	Val	Lys	Asn	Leu	Lys
		740						745					750		
Asp	Leu	Glu	Lys	Ile	Phe	Ile	Thr	Asn	Ser	Ser	Gly	Val	Lys	Ile	Pro
	755						760					765			
Phe	Ser	Ser	Ile	Ala	Thr	Phe	Glu	Lys	Thr	Asn	Lys	Ala	Glu	Ser	Ile
	770					775					780				
Tyr	Arg	Glu	Asn	Gln	Ala	Leu	Thr	Ile	Tyr	Leu	Asn	Ala	Gly	Ile	Ser
785				790						795					800
Pro	Asp	Asp	Asn	Leu	Thr	Gln	Val	Thr	Ala	Lys	Val	Val	Asp	Phe	Ile
			805						810					815	
Asn	Asn	Lys	Val	Pro	His	Lys	Glu	Gly	Ile	Thr	Leu	Lys	Val	Glu	Gly
		820					825						830		
Glu	Tyr	Asn	Glu	Phe	Ser	Asn	Ile	Met	Asn	Gln	Phe	Lys	Ile	Ile	Ile
	835						840					845			
Met	Met	Ala	Ile	Ile	Val	Val	Phe	Gly	Ile	Met	Ala	Ser	Gln	Phe	Glu
	850					855					860				
Ser	Phe	Leu	Lys	Pro	Phe	Ile	Ile	Ile	Phe	Thr	Ile	Pro	Leu	Thr	Ala
865				870						875					880
Ile	Gly	Val	Val	Leu	Ile	His	Phe	Leu	Ala	Gly	Glu	Lys	Leu	Ser	Ile
			885					890						895	

Phe Ala Ala Ile Gly Met Leu Met Leu Val Gly Val Val Val Asn Thr  
 900 905 910  
 Gly Ile Val Leu Val Asp Tyr Thr Gly Leu Leu Ile Lys Arg Gly Phe  
 915 920 925  
 Gly Leu Arg Glu Ala Ile Ile Glu Ser Cys Arg Ser Arg Leu Arg Pro  
 930 935 940  
 Ile Leu Met Ser Ser Leu Thr Ser Ile Ile Gly Leu Ile Pro Met Ala  
 945 950 955 960  
 Phe Ser Ser Gly Ser Gly Asn Glu Leu Leu Lys Pro Ile Ala Phe Thr  
 965 970 975  
 Phe Ile Gly Gly Met Thr Ala Ser Thr Phe Leu Thr Leu Phe Phe Ile  
 980 985 990  
 Pro Met Leu Phe Glu Ile Phe Pro Thr Cys Phe Lys Phe Gln Ile  
 995 1000 1005

&lt;210&gt; 366

&lt;211&gt; 3111

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 366

```

atgttggttaa agagaatagt tggcaaacca ataacaatgt tgatttttatt ttcatttgta 60
ttgatgataa gtttggtatac cttttcaaga ttaaaagtag atcttttgcc gggaattgac 120
attcccaaaa taagtattca cactgtttat cctggcgctt ctcttagaga agttgaagag 180
agtgtttcta gagtccttga gagtggcttg agttcggtaa agaattttaaa aaatatatat 240
agtgtatctt ccaaagaaaag cagcacctgt tcacttgaat tttatcatgg aaccgattta 300
gatttggttt taaatgaaat tcgagatgct ctggaattgg taaaatcttc attgccagc 360
aaatcacaga cccaagaat ttttagatac aatcttaaaa acatccctgt aatggaaatt 420
gttattaatt ctgtaaggcc agtttctgag cttaaaagat atgccgatga aatcattaaa 480
cctgggcttg aaaggcttga tggagttgca attgttactg ttaatggtgg aagtaaaaag 540
cgtgttttaa ttgaagtttc tcaaaacagg ctggagtctt atgggctttc tttgtcaaga 600
atatcttcaa ttatagcatc caaaaatttg gaactttcag ctggcaatat attggagaac 660
aacttgaat atttggttga agtttctgga aaatttaaat caattgaaga gataggtaat 720
gtggtcatag cttataagat acccgacatt tcttctggca taaatttatc tcctattgag 780
ataaaactca aagatattgc taatattaaa accgattttg aagatttgtc tgaatatgtt 840
gaatataatg gggtgccttc aatttctttg tcggttcaaa aacgtagtga ttctaattct 900
attgcagttt ctaatgttgt tatgaatgaa atagaaaaat tgaaattatc tatgcctaaa 960
gatatgaaat tggagattgc ttctgatagt actgatttta ttaaagcatc catttcaacg 1020
gttgtaaatt cagcctattt tggggccatg cttgcaatat ttgttatttt ttctttttta 1080
agaagcttta gggccacaat aattattgga atttctattc caatagcaat tgttttgacc 1140
ttttgtttaa tgtattttgt aaatatttct cttaatatta tgagtcttgc gggctctgca 1200
cttgggattg gaatggttgt tgactgttca attgttgtaa tagacaatat atacaaatat 1260
aggcaaaaag gagcaaagct tatttcgtct tctattctcg gagctcagga gatgatgttg 1320
cctattacat cttcaacttt tacttctatt tgtgtttttg gtccatttct tattttcaaa 1380
tcagaacttg gggatatatg agattttttc aaagacttta catttacgat tgttatttcc 1440
ttgggtgttt ctcttttagt tgcaattttt ttggttctcg ttttatcaag ccactatgtc 1500
ggtttataca caagtttcca aaagaatatt aagaatgctt ttattaggaa aatcgatgcc 1560
ttttttgcta gtatttatta ttttttagag tttttgtata tcaatttatt aaatatagtt 1620
ttaaatcaca aattgatttt tgggttgatt gtttttttta gttttattgg cagcttgctt 1680
ttaggattat tgtagatgt gacaactttt actagagggg aagagaactc aattactatt 1740
aatttaaatt ttccccacaa aactaatttg gaatatgcaa aattttattc taatagattt 1800

```

ttagaaattg	taaaaagtga	ggctaaagga	tataaaagta	ttattgctac	tttgcggtgct	1860
gatagaataa	ctttcaacgt	attgtttcct	ctcaaagaag	aatcaagaga	taattttaacc	1920
caaagcgtag	attacgattc	tattaaatat	aaaattatga	atcgtattgg	taatctttat	1980
cctgaattta	atattgagcc	ttccattagt	ggcaatgctt	taggtggtgg	agattctatt	2040
aaaattaaaa	tttcggccaa	tgattttgaa	tatataaaaag	attatggaaa	aatttttagtt	2100
tccatgttaa	aaaaggaaaat	tcccgaactt	gtaaatccaa	ggcttagcat	aagtgatttt	2160
cagcttcaaa	ttggcggtga	gatagacaga	gcgctagttt	ataattatgg	tattgacatg	2220
aataccattt	taaatgagtt	gaaggccaat	attaatgggt	ttgttgctgg	gcaatatgtg	2280
gagaagggac	ttaattatga	tattgttctt	aagcttgata	gaatggatgt	taaaaaattta	2340
aaagatttag	aaaaaatatt	tattacaaat	tcactctggag	ttaaaattcc	tttttcatca	2400
atagccacct	ttgaaaaaac	caataaagcc	gaatctattt	acagagaaaa	tcaagcttta	2460
accatttatc	ttaatgcggg	tatttctcca	gatgataatt	taacccaagt	aaccgcaaaa	2520
gtttagattt	ttattaataa	taagggtgcc	cataaagaag	gcataactct	taagggttgaa	2580
ggagaatata	atgaattttc	aaatatcatg	aatcagttta	aaataatcat	tatgatggct	2640
attattgttg	tgtttggtat	tatggcttct	caatttgaat	cttttttaaa	accctttatt	2700
attattttta	caattccttt	aacggcaata	ggggttggtc	ttatacattt	tcttgacagga	2760
gaaaagcttt	ctatttttgc	tgcaattggg	atgcttatgc	ttgttggtgt	tgtggtaaat	2820
acaggaattg	ttcttgtaga	ctatactggg	ttattgatca	agaggggatt	tggcctaaga	2880
gaagcaatta	ttgaatcttg	tcgttcaagg	cttaggccaa	ttttaatgtc	ttctttgacc	2940
tcaataatag	ggcttattcc	aatggcattt	tctagcggaa	gtggaaatga	acttctaaaa	3000
ccaattgcat	ttacttttat	tggcggaatg	acagctagca	catttcttac	tttgtttttt	3060
attcccatgc	tttttgaaat	ttttccaaca	tgtttcaagt	ttcaaatcta	g	3111

&lt;210&gt; 367

&lt;211&gt; 3024

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 367

agattaaaaag	tagatctttt	gccgggaatt	gacattcccc	aaataagtat	tcacactggt	60
tatcctggcg	cttctcctag	agaagttgaa	gagagtgttt	ctagagtcct	tgagagtggc	120
ttgagttcgg	taaagaattt	aaaaaatata	tatagtgtat	cttccaaaga	aagcagcacc	180
gtttcacttg	aattttatca	tggaaaccgat	ttagatttgg	ttttaaatga	aattcgagat	240
gctcttgaat	tggtaaaaat	ttcattgccc	agcaaatac	agacccaag	aatttttaga	300
tacaattctta	aaaacatccc	tgtaatggaa	attgttatta	attctgtaag	gccagtttct	360
gagcttaaaaa	gatatgccga	tgaaatcatt	aaacctgggc	ttgaaaggct	tgatggagtt	420
gcaattgtta	ctgttaatgg	tggaaagtaa	aagcgtgttt	taattgaagt	ttctcaaaac	480
aggctggagt	cttatgggct	ttctttgtca	agaatatctt	caattatagc	atcccaaaat	540
ttggaaacttt	cagctggcaa	tatattggag	aacaacttgg	aatattttgt	tgaagtttct	600
ggaaaaattta	aatcaattga	agagataggt	aatgtgggtc	tagcttataa	gataccgcac	660
atttcttctg	gcataaaatt	atctcctatt	gagataaaaac	tcaaagatat	tgctaataat	720
aaaaccgatt	ttgaagattt	gtctgaatat	gttgaatata	atgggttgcc	ttcaatttct	780
ttgtcgggtt	aaaaacgtag	tgatttctaat	tctattgcag	tttctaattg	tgttatgaat	840
gaaatagaaa	aattgaaatt	atctatgcct	aaagatatga	aattggagat	tgcttctgat	900
agtactgatt	ttattaaagc	atccatttca	acggttgtaa	attcagccta	ttttggggcc	960
atgcttgcaa	tatttgttat	ttttttcttt	ttagaagct	ttagggccac	aataattatt	1020
ggaatttcta	ttccaatagc	aattgttttg	accttttggt	taattgtatt	tgtaaatatt	1080
tctcttaata	ttatgagtct	tgcgggtctt	gcacttggga	ttggaatggg	tggtgactgt	1140
tcaattgttg	taatagacaa	tatatacaaa	tataggcaaa	aaggagcaaa	gcttatttctg	1200
tcttctattc	tcggagctca	ggagatgatg	ttgcctatta	catcttcaac	ttttacttct	1260
atttgtgttt	ttgggtccatt	tcttattttt	aaatcagaac	ttggggtata	tggagatttt	1320
ttcaaagact	ttacattttac	gattgtttat	tcttgggtg	tttctctttt	agttgcaatt	1380
tttttgggtc	ctgttttatc	aagccactat	tcgggtttat	acacaagttt	ccaaaagaat	1440
attaagaatg	cttttatttag	gaaaatcgat	gccttttttg	ctagtattta	ttatttttta	1500
gagtttttgt	atatcaattt	attaaatata	gttttaaatc	acaaattgat	ttttgggttg	1560
attgtttttt	ttagttttat	tggcagcttg	cttttaggat	tattgttaga	tgtgacaact	1620
tttactagag	ggaaagagaa	ctcaattact	attaatttaa	attttcccca	caaaactaat	1680
ttggaatatg	caaaatttta	ttctaataga	tttttagaaa	ttgtaaaaag	tgaggctaaa	1740

```

ggatataaaa gtattattgc tactttgcgt gctgatagaa taactttcaa cgtattgttt 1800
cctctcaaag aagaatcaag agataattta acccaaagcg tagattacga ttctattaaa 1860
tataaaatta tgaatcgtat tggtaatcct tatcctgaat ttaatatatga gccttccatt 1920
agtggcaatg ctttaggtgg tggagattct attaaaatta aaatttcggc caatgatttt 1980
gaatatataa aagattatgg aaaaatttta gtttccatgt taaaaaagga aattcccga 2040
cttgtaaadc caaggcttag cataagtgat tttcagcttc aaattggcgt tgagatagac 2100
agagcgctag tttataatta tggatttgac atgaatacca ttttaaataga gttgaaggcc 2160
aatattaatg gtgttggtgc tgggcaatat gtggagaagg gacttaatta tgatattgtt 2220
cttaagcttg atagaatgga tgttaaaaat taaaagatt tagaaaaaat atttattaca 2280
aattcatctg gagttaaaat tcctttttca tcaatagcca cctttgaaaa aaccaataaa 2340
gccgaatcta ttacagaga aaatcaagct ttaaccattt atcttaatgc gggattttct 2400
ccagatgata atttaaccca agtaaccgca aaagtgttag attttattaa taataagggtg 2460
ccccataaag aaggcataac tcttaagggt gaaggagaat ataatagaatt ttcaaatac 2520
atgaatcagt ttaaaataat cattatgatg gctattattg ttgtggttggt tattatggct 2580
tctcaatttg aatctttttt aaaacccttt attattattt ttacaattcc tttaacggca 2640
ataggggttg tgcttatata ttttcttgca ggagaaaagc tttctatttt tgctgcaatt 2700
ggtagctta tgcttggttg tgttggtgga aatacaggaa ttgttcttgt agactatact 2760
ggtttattga tcaagagggg atttggccta agagaagcaa ttattgaatc ttgtcgttca 2820
aggcttaggc caattttaat gtcttctttg acctcaataa tagggcttat tccaatggca 2880
ttttctagcg gaagtggaaa tgaacttcta aaaccaattg catttacttt tattggcgga 2940
atgacagcta gcacatttct tactttgttt tttattccca tgctttttga aatttttcca 3000
acatgtttca agtttcaaact ctag 3024

```

&lt;210&gt; 368

&lt;211&gt; 129

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 368

```

Met Leu Lys Asn His Ser Lys Leu Ile Ile Gln Leu Lys Val Val Met
  1             5             10             15

```

```

Met Ile Tyr Leu Lys Lys Met Gly Asn Asp Met Thr Lys Phe Tyr Asn
      20             25             30

```

```

Tyr Arg Ile Glu Ile Val Ser Asn Leu Ser Leu Glu Leu Asp Val Phe
      35             40             45

```

```

Glu Cys Ile Glu Lys Ile Glu Gln Glu Leu Gly Glu Ser Ile Tyr Tyr
      50             55             60

```

```

Ser Lys Ile Gly Asn Val Tyr Gly Lys Gly Lys Lys Gly Glu Lys His
      65             70             75             80

```

```

Gly Asn Gly Val Trp Pro Glu Glu Asn Phe Ile Leu Ile Ile Tyr Thr
      85             90             95

```

```

Ser Asn Gln Ser Ile Val Glu Arg Leu Lys Asp Ile Val Asp Asp Leu
      100            105            110

```

```

Asn Arg Ser Tyr Pro Thr Glu Gly Ile Asn Leu Phe Val Leu Arg Asn
      115            120            125

```

Ser

&lt;210&gt; 369

&lt;211&gt; 109



&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 369

Lys Lys Met Gly Asn Asp Met Thr Lys Phe Tyr Asn Tyr Arg Ile Glu  
 1 5 10 15

Ile Val Ser Asn Leu Ser Leu Glu Leu Asp Val Phe Glu Cys Ile Glu  
 20 25 30

Lys Ile Glu Gln Glu Leu Gly Glu Ser Ile Tyr Tyr Ser Lys Ile Gly  
 35 40 45

Asn Val Tyr Gly Lys Gly Lys Lys Gly Glu Lys His Gly Asn Gly Val  
 50 55 60

Trp Pro Glu Glu Asn Phe Ile Leu Ile Ile Tyr Thr Ser Asn Gln Ser  
 65 70 75 80

Ile Val Glu Arg Leu Lys Asp Ile Val Asp Asp Leu Asn Arg Ser Tyr  
 85 90 95

Pro Thr Glu Gly Ile Asn Leu Phe Val Leu Arg Asn Ser  
 100 105

&lt;210&gt; 370

&lt;211&gt; 390

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 370

atggttga aaa atcattcaaaa attaataaatt caactaaaag tagttatgat gatttatttg 60  
 aagaagatgg ggaatgatat gactaaat ttataattata ggattgaaat agtttctaac 120  
 ttatcttttag agcttgatgt ttttgaatgt atagaaaaaa tagagcaaga gttaggagag 180  
 tctatatatt attctaagat aggaaatggt tatggaaaag gtaagaaggg agaaaagcat 240  
 ggtaatggcg tttggcctga agaaaat tttttgatta tttatacctc caatcagtct 300  
 attggtgagc gattaaagga tattgtggat gatttgaatc gttcttacct tacagaaggg 360  
 attaatcttt ttgttttgag aaattcttaa 390

&lt;210&gt; 371

&lt;211&gt; 330

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 371

aagaagatgg ggaatgatat gactaaat ttataattata ggattgaaat agtttctaac 60  
 ttatcttttag agcttgatgt ttttgaatgt atagaaaaaa tagagcaaga gttaggagag 120  
 tctatatatt attctaagat aggaaatggt tatggaaaag gtaagaaggg agaaaagcat 180  
 ggtaatggcg tttggcctga agaaaat tttttgatta tttatacctc caatcagtct 240  
 attggtgagc gattaaagga tattgtggat gatttgaatc gttcttacct tacagaaggg 300  
 attaatcttt ttgttttgag aaattcttaa 330

&lt;210&gt; 372

&lt;211&gt; 625

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 372

Met Leu Asn Asn Thr Tyr Arg Ile Lys Thr Ile Leu Thr Ile Phe Leu  
 1 5 10 15  
 Ala Ile Thr Leu Leu Thr Ile Tyr Lys Tyr Phe Thr Leu Met Ala Phe  
 20 25 30  
 Asn Asn Ser Pro Asp Asn Thr Ile Ser Leu Lys Ser Asn Asp Ile Ala  
 35 40 45  
 Lys Arg Gly Thr Ile Tyr Asp Arg Asn Gly Lys Pro Ile Ala Phe Ser  
 50 55 60  
 Ser Lys Ser Tyr Ser Ile Gly Thr Asn Pro Gln Lys Ile Glu Asn Ile  
 65 70 75 80  
 Val Ser Thr Ser Glu Thr Leu Gly Ala Ile Leu Gln Ile Asn Ser Arg  
 85 90 95  
 Ile Leu Lys Glu Lys Leu Ser Ser Asn Lys Gly Phe Leu Tyr Ile Lys  
 100 105 110  
 Arg Lys Ile Lys Arg Glu Glu Ser Asp Leu Ile Lys Arg Ile Gln Ala  
 115 120 125  
 Glu Gly Arg Leu Ser Asn Ile Thr Leu Tyr Pro Asp Tyr Thr Arg Ile  
 130 135 140  
 Tyr Pro Phe Arg Asn Thr Thr Ser Asn Ile Thr Gly Phe Val Gly Thr  
 145 150 155 160  
 Asp Asn Leu Gly Leu Glu Gly Ile Glu Phe Ser Leu Asn Ser Ile Leu  
 165 170 175  
 Gly Lys Asp Lys Thr Lys Gln Gln Phe Leu Asn Glu Glu Pro Glu Thr  
 180 185 190  
 Asn Asn Ile His Leu Thr Ile Asp Met Asp Ile Gln Gln Gly Val Ser  
 195 200 205  
 Lys Ile Ala Lys Lys Tyr Phe Lys Glu Asn Asn Pro Glu Ser Leu Ile  
 210 215 220  
 Thr Leu Val Met Asn Ser Gln Asn Gly Glu Ile Leu Ser Met Val Gln  
 225 230 235 240  
 Phe Pro Gln Tyr Asp Ala Asn Phe Tyr Ser Lys Tyr Pro Glu Glu Ile  
 245 250 255  
 Arg Lys Asn Leu Ser Ser Ser Leu Thr Tyr Glu Pro Gly Ser Ile Asn  
 260 265 270  
 Lys Ile Phe Thr Val Ala Ile Ile Leu Glu Ser Gly Lys Leu Asn Leu  
 275 280 285  
 Glu Glu Lys Phe Leu Asp Asn Gly Ile Tyr Gln Lys Gln Phe Pro Ser  
 290 295 300  
 Gly Glu Lys Ile Thr Ile Lys Thr Leu Asn Pro Pro Tyr Lys His Ile

305		310		315		320
Asp Ser Thr Glu Ile Leu Ile Tyr Ser Ser Asn Val Gly Ile Ala Tyr	325		330		335	
Ile Thr Glu Lys Val Ser Asn Glu Tyr Phe Tyr Lys Lys Leu Leu Asp	340		345		350	
Phe Gly Phe Gly Glu Lys Val Gly Val Pro Phe Pro Gly Glu Thr Lys	355		360		365	
Gly Leu Leu Asn His Tyr Ser Lys Trp Ser Gly Arg Ser Lys Ala Thr	370		375		380	
Ile Gly Phe Gly Gln Glu Ile Gly Val Ser Ala Val Gln Ile Leu Gln	385		390		395	400
Ala Ala Ser Ile Leu Ser Asn Asn Gly Ile Met Leu Lys Pro Arg Ile	405		410		415	
Ile Lys Lys Ile Ser Asn Asp Lys Gly Glu Asn Ile Lys Glu Phe Asp	420		425		430	
Lys Glu Glu Ile Arg Lys Val Ile Ser Lys Asn Ser Ala Gln Lys Val	435		440		445	
Leu Lys Met Met Arg Glu Val Val Asn Lys Gly Gly Ile Pro Asn Leu	450		455		460	
Lys Ile Lys Asn Leu Asp Ile Ser Ala Lys Ser Gly Thr Ser Gln Ala	465		470		475	480
Ile Asp Arg Lys Thr Gly Lys Tyr Ser Glu Glu Asp Tyr Thr Ser Ser	485		490		495	
Ile Leu Ala Ile Tyr Pro Thr Glu Gln Pro Lys Tyr Ile Ile Tyr Ile	500		505		510	
Val Tyr Arg Tyr Pro Lys Lys Ile Ile Tyr Gly Thr Arg Ile Ala Ala	515		520		525	
Pro Met Ala Lys Glu Ile Ile Glu Phe Ile Glu His Gln Gln Asn Thr	530		535		540	
Ile Ala Tyr Lys Lys Ile Lys Met Pro Ser Lys Ile Lys Ile Pro Lys	545		550		555	560
Ala Glu Thr Asn Tyr Lys Asn Lys Thr Tyr Leu Pro Asn Phe Ile Asn	565		570		575	
Leu Ser Lys Arg Glu Ala Ile Asp Ile Leu Lys Tyr Tyr Lys Asn Thr	580		585		590	
Met Lys Ile Lys Ile Asn Gly Asp Gly Phe Val Tyr Lys Gln Ser Ile	595		600		605	
Ser Pro Asn Thr Lys Leu Glu Asp Ile Thr Glu Leu Glu Leu Tyr Leu	610		615		620	

Lys  
625

<210> 373  
<211> 594  
<212> PRT  
<213> Homo sapiens

<400> 373

Phe	Asn	Asn	Ser	Pro	Asp	Asn	Thr	Ile	Ser	Leu	Lys	Ser	Asn	Asp	Ile
1				5					10					15	
Ala	Lys	Arg	Gly	Thr	Ile	Tyr	Asp	Arg	Asn	Gly	Lys	Pro	Ile	Ala	Phe
			20					25					30		
Ser	Ser	Lys	Ser	Tyr	Ser	Ile	Gly	Thr	Asn	Pro	Gln	Lys	Ile	Glu	Asn
		35					40					45			
Ile	Val	Ser	Thr	Ser	Glu	Thr	Leu	Gly	Ala	Ile	Leu	Gln	Ile	Asn	Ser
	50					55					60				
Arg	Ile	Leu	Lys	Glu	Lys	Leu	Ser	Ser	Asn	Lys	Gly	Phe	Leu	Tyr	Ile
65					70					75					80
Lys	Arg	Lys	Ile	Lys	Arg	Glu	Glu	Ser	Asp	Leu	Ile	Lys	Arg	Ile	Gln
				85					90					95	
Ala	Glu	Gly	Arg	Leu	Ser	Asn	Ile	Thr	Leu	Tyr	Pro	Asp	Tyr	Thr	Arg
			100					105						110	
Ile	Tyr	Pro	Phe	Arg	Asn	Thr	Thr	Ser	Asn	Ile	Thr	Gly	Phe	Val	Gly
	115					120						125			
Thr	Asp	Asn	Leu	Gly	Leu	Glu	Gly	Ile	Glu	Phe	Ser	Leu	Asn	Ser	Ile
	130					135					140				
Leu	Gly	Lys	Asp	Lys	Thr	Lys	Gln	Gln	Phe	Leu	Asn	Glu	Glu	Pro	Glu
145					150					155					160
Thr	Asn	Asn	Ile	His	Leu	Thr	Ile	Asp	Met	Asp	Ile	Gln	Gln	Gly	Val
				165					170					175	
Ser	Lys	Ile	Ala	Lys	Lys	Tyr	Phe	Lys	Glu	Asn	Asn	Pro	Glu	Ser	Leu
			180					185					190		
Ile	Thr	Leu	Val	Met	Asn	Ser	Gln	Asn	Gly	Glu	Ile	Leu	Ser	Met	Val
	195						200					205			
Gln	Phe	Pro	Gln	Tyr	Asp	Ala	Asn	Phe	Tyr	Ser	Lys	Tyr	Pro	Glu	Glu
	210					215					220				
Ile	Arg	Lys	Asn	Leu	Ser	Ser	Ser	Leu	Thr	Tyr	Glu	Pro	Gly	Ser	Ile
225					230					235					240
Asn	Lys	Ile	Phe	Thr	Val	Ala	Ile	Ile	Leu	Glu	Ser	Gly	Lys	Leu	Asn
				245					250					255	

Leu Glu Glu Lys Phe Leu Asp Asn Gly Ile Tyr Gln Lys Gln Phe Pro  
 260 265 270  
 Ser Gly Glu Lys Ile Thr Ile Lys Thr Leu Asn Pro Pro Tyr Lys His  
 275 280 285  
 Ile Asp Ser Thr Glu Ile Leu Ile Tyr Ser Ser Asn Val Gly Ile Ala  
 290 295 300  
 Tyr Ile Thr Glu Lys Val Ser Asn Glu Tyr Phe Tyr Lys Lys Leu Leu  
 305 310 315 320  
 Asp Phe Gly Phe Gly Glu Lys Val Gly Val Pro Phe Pro Gly Glu Thr  
 325 330 335  
 Lys Gly Leu Leu Asn His Tyr Ser Lys Trp Ser Gly Arg Ser Lys Ala  
 340 345 350  
 Thr Ile Gly Phe Gly Gln Glu Ile Gly Val Ser Ala Val Gln Ile Leu  
 355 360 365  
 Gln Ala Ala Ser Ile Leu Ser Asn Asn Gly Ile Met Leu Lys Pro Arg  
 370 375 380  
 Ile Ile Lys Lys Ile Ser Asn Asp Lys Gly Glu Asn Ile Lys Glu Phe  
 385 390 395 400  
 Asp Lys Glu Glu Ile Arg Lys Val Ile Ser Lys Asn Ser Ala Gln Lys  
 405 410 415  
 Val Leu Lys Met Met Arg Glu Val Val Asn Lys Gly Gly Ile Pro Asn  
 420 425 430  
 Leu Lys Ile Lys Asn Leu Asp Ile Ser Ala Lys Ser Gly Thr Ser Gln  
 435 440 445  
 Ala Ile Asp Arg Lys Thr Gly Lys Tyr Ser Glu Glu Asp Tyr Thr Ser  
 450 455 460  
 Ser Ile Leu Ala Ile Tyr Pro Thr Glu Gln Pro Lys Tyr Ile Ile Tyr  
 465 470 475 480  
 Ile Val Tyr Arg Tyr Pro Lys Lys Ile Ile Tyr Gly Thr Arg Ile Ala  
 485 490 495  
 Ala Pro Met Ala Lys Glu Ile Ile Glu Phe Ile Glu His Gln Gln Asn  
 500 505 510  
 Thr Ile Ala Tyr Lys Lys Ile Lys Met Pro Ser Lys Ile Lys Ile Pro  
 515 520 525  
 Lys Ala Glu Thr Asn Tyr Lys Asn Lys Thr Tyr Leu Pro Asn Phe Ile  
 530 535 540  
 Asn Leu Ser Lys Arg Glu Ala Ile Asp Ile Leu Lys Tyr Tyr Lys Asn  
 545 550 555 560  
 Thr Met Lys Ile Lys Ile Asn Gly Asp Gly Phe Val Tyr Lys Gln Ser

565

570

575

Ile Ser Pro Asn Thr Lys Leu Glu Asp Ile Thr Glu Leu Glu Leu Tyr  
 580 585 590

Leu Lys

&lt;210&gt; 374

&lt;211&gt; 1878

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 374

```

atgcttaata acacttatcg aataaaaaaca atattaacaa tattcttggc tataactttg 60
ttaactatatt acaaatatatt cacactaatg gccttcaata acagcccaga caacacaata 120
tctttaaagt caaatgatat tgccaaaaga ggaacaattt atgatagaaa tggcaaacca 180
atagcattct cttcaaaatc ctactcaatt ggtacaaatc ctcaaaaaat agaaaatatt 240
gtaagcacat ctgaaactct tgggtgcaata cttcaaatata attcaagaat tttaaaggaa 300
aagcttttcct ctaacaaagg gtttttatat ataaaaagaa aaataaaaaag agaagaatca 360
gatttaataa aaagaattca agctgaaggc aggctttcaa acatcacttt atatcctgat 420
tacacaagaa tttatccctt caggaatacc acaagcaata ttactgggtt tgtaggaaca 480
gataatccttg gccttgaggg cattgaattt tccctaaata gcatattagg aaaagataaa 540
accaagcaac aattttttaa tgaggagcca gaaacaaaca acatccactt aacaatagac 600
atggatatac aacaagggtg tagcaaaata gctaaaaaat acttttaaga aaataatcct 660
gaaagtttaa ttaccttggt aatgaactcc caaaatggag aaatattatc catgggttcaa 720
tttctcctca atgatgcaaa cttttattct aaatattcctg aagaaatccg aaaaaacctt 780
tcttcctctc taacctatga gcccggaagc attaataaaa tttttacagt tgcaataata 840
ttgaaaagtg gaaaattaaa tttagaagaa aaatttttag acaatggaat atatcaaaaa 900
caatttccat caggagaaaa aattacaatc aaaacattaa atcccccta taaacatatc 960
gactctacag agatttttaat ttattcatca aatgttggaa tagcttacat tactgaaaaa 1020
gttagcaatg aatactttta taaaaaactt ttagattttg gctttgggga aaaagtgtga 1080
gttccatttc cgggagaaac aaaaggactg ctaaatcatt attcaaaatg gtcaggacga 1140
agtaaagcta caattggatt tggacaagaa ataggagtgt cagcggttca aatattacaa 1200
gctgcaagca tactaagcaa taatggaata atgctaaaac ctagaataat aaaaaaata 1260
agcaacgata aaggagaaaa tattaagaa tttgataaag aagaaataag aaaagtaata 1320
tccaaaaatt cagcacaaaa agtttttaaaa atgatgagag aagttgtaaa taaagggtga 1380
attccaaatc ttaaaattaa aaatcttgac atttctgcaa aaagtggaa atctcaagct 1440
attgatagaa aaacgggaaa atactcagaa gaagactata catcttctat attggcaata 1500
taccacacag aacaaccaaa atatattatt tacattgtat acagataccc aaaaaaata 1560
atatacggaa caagaatagc agccccaatg gcaaaagaaa taatagaatt tattgagcac 1620
caacaaaata caatagcata taaaaaaatt aaaatgccat caaaaatcaa gatccctaaa 1680
gctgaaacta attacaaaaa caaaacatac ttaccaaatt ttatcaacct ttctaaaaga 1740
gaagcaatag acatactaaa atactataaa aatactatga aaataaaaaat aaatggcgat 1800
ggatttggtt acaagcaaag tatatcccc aatacaaaat tagaagatat aacagagctt 1860
gaactgtatt taaaataa

```

&lt;210&gt; 375

&lt;211&gt; 1785

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 375

```

ttcaataaca gcccagacaa cacaatatct ttaaagtcaa atgatattgc caaaagagga 60
acaatttatg atagaaatgg caaaccaata gcattctctt caaaatccta ctcaattgggt 120
acaaatcctc aaaaaataga aaatattgta agcacatctg aaactcttgg tgcaatactt 180
caaattaatt caagaatttt aaaggaaaag ctttctctta acaaagggtt tttatatata 240
aaaagaaaaa taaaagaga agaatcagat ttaataaaaa gaattcaagc tgaaggcagg 300

```

```

ctttcaaaca tcactttata tcctgattac acaagaattt atcccttcag gaataccaca 360
agcaatatta ctgggtttgt aggaacagat aatcttggcc ttgagggcat tgaattttcc 420
ctaaatagca tattaggaaa agataaaacc aagcaacaat ttttaaataa ggagccagaa 480
acaaacaaca tccacttaac aatagacatg gatatacaac aagggtgtag caaaatagct 540
aaaaataact ttaaagaaaa taatcctgaa agtttaatta ccttggtaat gaactcccaa 600
aatggagaaa tattatccat ggttcaattt cctcaatatg atgcaaactt ttattctaaa 660
tatcctgaag aaatccgaaa aaacctttct tcatctctaa cctatgagcc cggaagcatt 720
aataaaatth ttacagttgc aataatatta gaaagtggaa aattaaatth agaagaaaaa 780
tttttagaca atggaatata tcaaaaaaaa tttccatcag gagaaaaaat tacaatcaaa 840
acattaaatc cccctataa acatatcgac tctacagaga ttttaattta ttcataaat 900
gttggaatag cttacattac tgaaaaagtt agcaatgaat acttttataa aaaactttta 960
gattttggct ttggggaaaa agttggagtt ccattttccg gagaaacaaa aggactgcta 1020
aatcattatt caaaatgggtc aggacgaagt aaagctacaa ttggatttgg acaagaaata 1080
ggagtgtcag cggttcaaat attacaagct gcaagcatac taagcaataa tggaataatg 1140
ctaaaaccta gaataataaa aaaaataaagc aacgataaag gagaaaaat taaagaatth 1200
gataaagaag aaataagaaa agtaatatcc aaaaattcag cacaaaaagt tttaaaaatg 1260
atgagagaag ttgtaataaa aggtggaatt ccaaacttta aaattaaaaa tcttgacatt 1320
tctgcaaaaa gtggaacatc tcaagctatt gatagaaaaa cgggaaaaata ctcagaagaa 1380
gactatacat cttctatatt ggcaatatac cccacagaac aacaaaaata tattattttac 1440
attgtatata gatacccaaa aaaaataata tacggaacaa gaatagcagc cccaatggca 1500
aaagaaataa tagaatttat tgagcaccaa caaaatacaa tagcatataa aaaaattaaa 1560
atgccatcaa aaatcaagat ccctaaagct gaaactaatt acaaaaaaaa aacatactta 1620
ccaaatttth tcaacctttc taaaagagaa gcaatagaca tactaaaaata ctataaaaaat 1680
actatgaaaa taaaaataaa tggcgatgga tttgtttaca agcaaagtat atcccccaat 1740
acaaaattag aagatataac agagcttgaa ctgtattthaa aataa 1785

```

&lt;210&gt; 376

&lt;211&gt; 203

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 376

```

Met Ala Lys Asn Asn Leu Leu Val Phe Phe Ile Ala Ile Ile Phe Val
  1          5          10          15
Phe Val Ser Ile Ile Val Val Phe Tyr Asn Ser Leu Gly Lys Asp Tyr
  20          25          30
Val Lys Ser Gly Gly Glu Ile Val Glu Asn Leu Glu Lys Asp Leu Asn
  35          40          45
Asp Tyr Leu Lys Glu Asn Asp Ala Lys Glu Arg Glu Lys Ile Phe Leu
  50          55          60
Arg Ile Arg Glu Leu Ile Ser Lys Glu Lys Glu Ile Ser Ser Tyr Phe
  65          70          75          80
Ile Ser Arg Phe Tyr Leu Ala Arg Ala Val Tyr Phe Gln Ser Gln Ala
  85          90          95
Gln Tyr Asp Glu Ala Ile Lys Asp Leu Asp Ile Val Ile Lys Ala Lys
 100          105          110
Gly Ile Glu Ser Glu Ile Ala Phe Leu Asn Lys Ala Ala Val Tyr Glu
 115          120          125
Lys Met Gly Leu Lys Glu Asp Ala Leu Leu Val Tyr Glu Asp Leu Ile
 130          135          140

```

Asn Ser Thr Ser Leu Asp Phe Leu Lys Val Arg Ala Leu Leu Ser Lys  
 145 150 155 160

Ala Ile Leu Ile Glu Glu Lys Asp Lys Glu Leu Ala Val Lys Val Tyr  
 165 170 175

Glu Glu Ile Val Lys Phe Pro Tyr Glu Asn Asn Leu Tyr Ile Asn Met  
 180 185 190

Ala Asn Asn Lys Ile Leu Glu Leu Lys Gln Asn  
 195 200

<210> 377

<211> 179

<212> PRT

<213> Homo sapiens

<400> 377

Tyr Asn Ser Leu Gly Lys Asp Tyr Val Lys Ser Gly Gly Glu Ile Val  
 1 5 10 15

Glu Asn Leu Glu Lys Asp Leu Asn Asp Tyr Leu Lys Glu Asn Asp Ala  
 20 25 30

Lys Glu Arg Glu Lys Ile Phe Leu Arg Ile Arg Glu Leu Ile Ser Lys  
 35 40 45

Glu Lys Glu Ile Ser Ser Tyr Phe Ile Ser Arg Phe Tyr Leu Ala Arg  
 50 55 60

Ala Val Tyr Phe Gln Ser Gln Ala Gln Tyr Asp Glu Ala Ile Lys Asp  
 65 70 75 80

Leu Asp Ile Val Ile Lys Ala Lys Gly Ile Glu Ser Glu Ile Ala Phe  
 85 90 95

Leu Asn Lys Ala Ala Val Tyr Glu Lys Met Gly Leu Lys Glu Asp Ala  
 100 105 110

Leu Leu Val Tyr Glu Asp Leu Ile Asn Ser Thr Ser Leu Asp Phe Leu  
 115 120 125

Lys Val Arg Ala Leu Leu Ser Lys Ala Ile Leu Ile Glu Glu Lys Asp  
 130 135 140

Lys Glu Leu Ala Val Lys Val Tyr Glu Glu Ile Val Lys Phe Pro Tyr  
 145 150 155 160

Glu Asn Asn Leu Tyr Ile Asn Met Ala Asn Asn Lys Ile Leu Glu Leu  
 165 170 175

Lys Gln Asn

<210> 378

<211> 612

<212> DNA



<213> Homo sapiens

<400> 378

```

atggctaaaa ataatctttt agttttcttt attgctatta tttttgtgtt tgtgtctatt 60
attgttggtt tttataattc tttaggcaag gattatgtaa agagtggcgg agaaatagta 120
gaaaatcttg aaaaagattt aaatgattat ttaaaagaaa atgatgccaa agagagagaa 180
aaaatatttc ttaggataag ggagcttatt tcaaaggaaa aagaaatttc atcttatttt 240
atttcaaggt tctatttagc cagagctgtt tttttccaaa gtcaagcaca gtatgatgag 300
gctattaaaag atttagatat tgttattaag gcaaaaggta ttgaaagtga aattgctttt 360
cttaataaag ctgcagttaa tgaaaaaatg ggattaaaag aagatgcttt gttagtttat 420
gaagatctta tcaatagtag tagtttggat tttttaaagg taagagctct tttgagtaag 480
gcaatattga ttgaggaaaa agataaagag cttgctgtga aagtatacga agagattggt 540
aagtttccgt atgaaaataa tttatatata aatatggcaa ataataaaat tttagaactt 600
aagcaaaatt aa 612

```

<210> 379

<211> 540

<212> DNA

<213> Homo sapiens

<400> 379

```

tataattctt taggcaagga ttatgtaaag agtggcggag aaatagtaga aaatcttgaa 60
aaagatttaa atgattatctt aaaagaaaat gatgccaaag agagagaaaa aatatttctt 120
aggataaggg agcttatttc aaaggaaaaa gaaatttcat cttattttat ttcaagggtc 180
tatttagcca gagctgttta tttccaaagt caagcacagt atgatgaggc tattaagat 240
ttagatattg ttattaaggc aaaagggtatt gaaagtgaat ttgcttttct taataaagct 300
gcagtttatg aaaaaatggg attaaaagaa gatgctttgt tagtttatga agatcttatt 360
aatagtacta gtttggattt tttaaaggta agagctcttt tgagtaaggc aatattgatt 420
gaggaaaaag ataaagagct tgctgtgaaa gtatacgaag agattgttaa gtttccgtat 480
gaaaataatt tatatatata tatggcaaat aataaaattt tagaacttaa gcaaaattaa 540

```

<210> 380

<211> 504

<212> PRT

<213> Homo sapiens

<400> 380

```

Met Lys Ala Ile Gly Asn Ala Ile Leu Leu Asn Met Pro Leu Ile Phe
  1              5              10              15

```

```

Ser Ile Gly Ile Ser Ile Gly Val Ala Arg Met Gly Gln Gly Thr Ala
      20              25              30

```

```

Ala Leu Gly Gly Leu Ile Gly Tyr Leu Thr Phe Asn Ile Thr Glu Asn
  35              40              45

```

```

Tyr Phe Ile Glu Ala Phe Ser Gly Leu Val Glu Ala Glu Thr Met Ser
  50              55              60

```

```

Ser Val Gly Arg Ile Asn Phe Phe Gly Val Gln Thr Leu Asn Thr Gly
  65              70              75              80

```

```

Ile Ala Gly Ser Leu Ala Val Gly Leu Leu Val Gly Tyr Leu His Asn
      85              90              95

```

```

Lys Phe Tyr Asn Met Lys Leu Pro Lys Pro Phe Val Phe Phe Ser Glu
 100              105              110

```

Cys His Phe Val Pro Ile Val Ile Ile Leu Pro Phe Cys Val Phe Leu  
 115 120 125  
 Ala Ile Phe Phe Cys Leu Ile Trp Ser Ser Phe Asp Asp Leu Ile Ala  
 130 135 140  
 Ser Leu Gly Leu Phe Val Phe Arg Phe Glu Tyr Phe Gly Ser Phe Leu  
 145 150 155 160  
 Tyr Gly Phe Leu Asn Arg Leu Leu Leu Pro Leu Gly Leu His Ser Ile  
 165 170 175  
 Leu Ser Phe Pro Phe Glu Phe Thr Ser Leu Gly Gly Val Glu Ile Val  
 180 185 190  
 Asn Gly Asp Thr Val Arg Gly Leu Lys Asn Ile Phe Tyr Ala Gln Leu  
 195 200 205  
 Leu Asp Pro Ser Leu Gly Lys Phe Ser Ser Gly Phe Ala Lys Ile Ser  
 210 215 220  
 Ser Gly Phe Tyr Leu Ser Ile Met Phe Gly Leu Pro Gly Ala Ala Leu  
 225 230 235 240  
 Gly Val Tyr Lys Gly Ile Val His Glu Asp Lys Asn Lys Val Ala Ala  
 245 250 255  
 Leu Leu Phe Ser Gly Ala Leu Thr Ala Phe Leu Thr Gly Ile Thr Glu  
 260 265 270  
 Pro Leu Glu Phe Leu Phe Ile Phe Thr Ala Pro Leu Leu Tyr Phe Val  
 275 280 285  
 His Ala Ala Tyr Ser Gly Phe Ala Leu Leu Leu Ala Asn Phe Phe Asn  
 290 295 300  
 Val Thr Ile Gly Asn Ser Phe Ser Thr Gly Phe Leu Asp Phe Phe Met  
 305 310 315 320  
 Phe Gly Ile Leu Gln Gly Asn Ser Lys Thr Asn Trp Ile Ser Val Leu  
 325 330 335  
 Pro Leu Gly Ala Met Phe Phe Ala Leu Tyr Tyr Phe Thr Phe Ser Trp  
 340 345 350  
 Leu Tyr Arg Tyr Phe Asp Phe Gln Ile Phe Val Thr Asp Asp Pro Phe  
 355 360 365  
 Phe Glu Gly Gln Glu Gly Lys Leu Glu Ser Leu Gly Ile Ala His Leu  
 370 375 380  
 Leu Ile Gln Gly Leu Gly Gly Phe Asp Asn Ile Thr Lys Leu Asp Val  
 385 390 395 400  
 Cys Ser Thr Arg Leu His Val Asp Val Val Asn Thr Glu Leu Val Asp  
 405 410 415  
 Asn Asn Leu Leu Lys Glu Ala Gly Val Leu Lys Ile Gly Leu Val Asn

420                      425                      430  
 Gly Lys Val Gln Leu Phe Tyr Gly Ser Asn Val Tyr Tyr Ile Lys Asn  
                     435                      440                      445  
 Ala Ile Asp Thr Tyr Ser Pro Lys Ser Leu Phe Glu Ala Ser Val Met  
                     450                      455                      460  
 Val Ala Val Asp Asn Val Lys Lys Gly Phe Lys Thr Tyr Ile Glu Met  
                     465                      470                      475                      480  
 Lys Glu Asp Lys Lys Leu Glu Lys Gln Gly Lys Ser Gly Lys Thr Tyr  
                     485                      490                      495  
 Lys Leu Ser Glu Leu Glu Glu Asp  
                     500  
  
 <210> 381  
 <211> 479  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 381  
 Arg Met Gly Gln Gly Thr Ala Ala Leu Gly Gly Leu Ile Gly Tyr Leu  
                     1                      5                      10                      15  
 Thr Phe Asn Ile Thr Glu Asn Tyr Phe Ile Glu Ala Phe Ser Gly Leu  
                     20                      25                      30  
 Val Glu Ala Glu Thr Met Ser Ser Val Gly Arg Ile Asn Phe Phe Gly  
                     35                      40                      45  
 Val Gln Thr Leu Asn Thr Gly Ile Ala Gly Ser Leu Ala Val Gly Leu  
                     50                      55                      60  
 Leu Val Gly Tyr Leu His Asn Lys Phe Tyr Asn Met Lys Leu Pro Lys  
                     65                      70                      75                      80  
 Pro Phe Val Phe Phe Ser Glu Cys His Phe Val Pro Ile Val Ile Ile  
                     85                      90                      95  
 Leu Pro Phe Cys Val Phe Leu Ala Ile Phe Phe Cys Leu Ile Trp Ser  
                     100                      105                      110  
 Ser Phe Asp Asp Leu Ile Ala Ser Leu Gly Leu Phe Val Phe Arg Phe  
                     115                      120                      125  
 Glu Tyr Phe Gly Ser Phe Leu Tyr Gly Phe Leu Asn Arg Leu Leu Leu  
                     130                      135                      140  
 Pro Leu Gly Leu His Ser Ile Leu Ser Phe Pro Phe Glu Phe Thr Ser  
                     145                      150                      155                      160  
 Leu Gly Gly Val Glu Ile Val Asn Gly Asp Thr Val Arg Gly Leu Lys  
                     165                      170                      175  
 Asn Ile Phe Tyr Ala Gln Leu Leu Asp Pro Ser Leu Gly Lys Phe Ser  
                     180                      185                      190

Ser Gly Phe Ala Lys Ile Ser Ser Gly Phe Tyr Leu Ser Ile Met Phe  
 195 200 205  
 Gly Leu Pro Gly Ala Ala Leu Gly Val Tyr Lys Gly Ile Val His Glu  
 210 215 220  
 Asp Lys Asn Lys Val Ala Ala Leu Leu Phe Ser Gly Ala Leu Thr Ala  
 225 230 235 240  
 Phe Leu Thr Gly Ile Thr Glu Pro Leu Glu Phe Leu Phe Ile Phe Thr  
 245 250 255  
 Ala Pro Leu Leu Tyr Phe Val His Ala Ala Tyr Ser Gly Phe Ala Leu  
 260 265 270  
 Leu Leu Ala Asn Phe Phe Asn Val Thr Ile Gly Asn Ser Phe Ser Thr  
 275 280 285  
 Gly Phe Leu Asp Phe Phe Met Phe Gly Ile Leu Gln Gly Asn Ser Lys  
 290 295 300  
 Thr Asn Trp Ile Ser Val Leu Pro Leu Gly Ala Met Phe Phe Ala Leu  
 305 310 315 320  
 Tyr Tyr Phe Thr Phe Ser Trp Leu Tyr Arg Tyr Phe Asp Phe Gln Ile  
 325 330 335  
 Phe Val Thr Asp Asp Pro Phe Phe Glu Gly Gln Glu Gly Lys Leu Glu  
 340 345 350  
 Ser Leu Gly Ile Ala His Leu Leu Ile Gln Gly Leu Gly Gly Phe Asp  
 355 360 365  
 Asn Ile Thr Lys Leu Asp Val Cys Ser Thr Arg Leu His Val Asp Val  
 370 375 380  
 Val Asn Thr Glu Leu Val Asp Asn Asn Leu Leu Lys Glu Ala Gly Val  
 385 390 395 400  
 Leu Lys Ile Gly Leu Val Asn Gly Lys Val Gln Leu Phe Tyr Gly Ser  
 405 410 415  
 Asn Val Tyr Tyr Ile Lys Asn Ala Ile Asp Thr Tyr Ser Pro Lys Ser  
 420 425 430  
 Leu Phe Glu Ala Ser Val Met Val Ala Val Asp Asn Val Lys Lys Gly  
 435 440 445  
 Phe Lys Thr Tyr Ile Glu Met Lys Glu Asp Lys Lys Leu Glu Lys Gln  
 450 455 460  
 Gly Lys Ser Gly Lys Thr Tyr Lys Leu Ser Glu Leu Glu Glu Asp  
 465 470 475

<210> 382  
 <211> 1515  
 <212> DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 382

```

atgaaggcta taggcaatgc tattcttctc aatatgcctt taattttttc tattggaatt 60
tctattggag ttgcaagaat ggggcagggg acagcggcct tgggaggcct tattgggttat 120
ttaacattta atattactga aaattatatt attgaggcct ttccagggct tgttgaagca 180
gagacaatgt cttctgttgg gcgtataaat ttttttgggtg ttcaaacttt aaatacggga 240
attgcagggt ctttagcggg aggcctttta gttaggatatt tgcataacaa attttataat 300
atgaagctac ccaaaccctt tgtgtttttt tcagagtgcc attttgtgcc tatagtaata 360
attttaccct tttgtgtttt tttggctata tttttttgtt tgatttggtc aagttttgac 420
gatttaattg catctttagg tttgtttgtt tttaggtttg aatatttttg cagttttctt 480
tatggatttt taaataggct tttattgcct ttgggggttg attctatttt atcttttctt 540
tttgagttta cttctttggg aggagtggag atagttaatg gcgatactgt tagaggctct 600
aagaatatat tttatgctca gctatttagac ccatcacttg gtaaattttc atcaggcttt 660
gccaaaatta gcagtggatt ttatctatct attatgtttg gactgcccgg agcagcatta 720
gggggtttaca aggttattgt tcatgaagat aaaaataagg ttgcagcact tcttttctct 780
ggggccttga cagctttttt aacaggaata actgagcctt tagaattttt atttattttc 840
acagcgcctt tgctttatct tgttcattgc gcttattcgg gggttgcatt gttgcttgct 900
aattttttta atgttacgat tggcaatagc ttttctactg gatttttgga ttttttatg 960
tttgggatac ttcaaggaaa ttctaagaca aattggatta gtgtattacc tttgggggca 1020
atgttttttg ctctttatta ttttactttt agttggcttt atagatactt tgattttcag 1080
atatttgtaa cagacgatcc attttttgaa ggccaagaag gaaagctaga gactctcgga 1140
attgcgcatc ttttaattca aggtccttggg ggatttgata atattacaaa gcttgatggt 1200
tgttctacaa gattgcatgt agatgttgtt aatactgagc ttgttgataa taatttgctt 1260
aaagaggctg gagttcttaa aatagggtct gttaatggca aggttcagct tttttatgga 1320
tctaattgtt atttatattaa aaatgccatt gatacctatt ctccaaagag tctttttgaa 1380
gctagtgtta tggttgcagt tgataaatga aaaaaagggt ttaaaactta tattgaaatg 1440
aaagaagaca aaaaacttga aaagcaaggt aaatcaggaa aaacctataa gcttagcgaa 1500
ttagaagaag attag                                     1515

```

&lt;210&gt; 383

&lt;211&gt; 1440

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 383

```

agaatggggc agggaaacagc ggctttggga ggccttattg gttatttaac atttaaatatt 60
actgaaaatt attttattga ggctttttca gggcttggtg aagcagagac aatgtcttct 120
gttgggcgta taaatttttt tgggtgttcaa actttaaata cggaattgc aggttcttta 180
gcggtaggcc ttttagttgg atatttgcatt aacaaaattt ataatatgaa gctaccctaa 240
ccttttgtgt ttttttcaga gtgccatttt gtgcctatag taataatttt acccttttgt 300
gttttttttg ctataatttt ttgtttgatt tgggtcaagt ttgacgattt aattgcatct 360
ttaggtttgt ttgtttttag gtttgaatat tttggcagtt ttctttatgg atttttaaat 420
aggtctttat tgcctttggg gttgcattct attttatctt ttctttttga gtttacttct 480
ttgggaggag tggagatagt taatggcgat actgttagag gtcttaagaa tatattttat 540
gctcagctat tagaccctac acttggtaaa ttttcatcag gctttgccaa aattagcagt 600
ggattttatc tatctattat gtttggactg cccggagcag cattaggggt ttacaagggt 660
attgttcatg aagataaaaa taagggttgca gcacttcttt tctctggggc cttgacagct 720
tttttaacag gaataactga gccttttagaa tttttattta ttttcacagc gcctttgctt 780
tattttgttc atgccgctta ttccgggttt gcattgttgc ttgctaattt ttttaatggt 840
acgattggca atagcttttc tactggattt ttgattttt ttatgtttgg gatacttcaa 900
ggaaattcta agacaaattg gattagtgtt taacctttgg gggcaatggt ttttgcctct 960
tattatttta ctttttagtt gctttataga tactttgatt ttcagatatt tgttacagac 1020
gatccatttt ttgaaggcca agaaggaaag cttagagagtc tcggaattgc gcatctttta 1080
attcaagggtc ttggtggatt tgataaatatt acaaagcttg atgtttgttc tacaagattg 1140
catgtagatg ttgttaatac tgagcttggt gataataatt tgcttaaaaga ggctggagtt 1200
cttaaaaatg ggcttggtta tggcaagggt cagctttttt atggatctaa tgtttattat 1260
attaaaaatg ccattgatac ctattctcca aagagtcttt ttgaagctag tgttatgggt 1320

```

```
<210> 384
<211> 454
<212> PRT
<213> Homo sapiens
```

Met Arg Phe Lys Lys Ile Phe Leu Ile Ile Phe Ile Ile Ser Asn Leu  
1 5 10 15

Asp Lys Tyr Tyr Phe Glu Ile Leu Asn Asp Gly Phe Gly Phe Ser Leu  
35 40 45

Val	Ser	Lys	Tyr	Asn	Phe	Ile	Ile	Asn	Leu	Glu	Ala	His	Met	Leu	Thr
65					70					75					80

Leu Ile Glu Ile Gly Phe Met Tyr Tyr Phe Pro Ile Leu Leu Leu Ile  
100 105 110

Leu Leu Phe Gly Asp Trp Gly Gly His Leu Met Gln Ser Ile Ile His  
130 135 140

Ser Tyr Asn Tyr Arg Gly Phe Leu Ser Phe Ala Leu Asn Tyr Ser Tyr  
165 170 175

Asp Tyr Phe Ile Lys Asn Ser Ile Gly Ile Thr Leu Lys Asn Glu Asn  
195 200 205

Ser Leu Lys Thr Tyr Ser Lys Thr Gln Glu Ala Glu Thr Gly Ile Gly  
225 230 235 240

Asn Ile Lys Asn Phe Ser Thr Lys Glu Asn Phe Leu Ser Val Gly Gly

260					265					270					
Phe	Gly	Ile	Ile	Ile	Thr	Pro	Glu	Glu	Tyr	Lys	Lys	Ile	Ser	Glu	Ser
		275					280					285			
Asn	Asn	Glu	Phe	Asn	Val	Ile	Ser	Asn	Asn	Phe	Tyr	Phe	Gly	Phe	Asp
		290				295					300				
Ile	Met	Ile	Pro	Leu	Lys	Ile	Arg	Asn	Ser	Leu	Phe	Tyr	Lys	Ile	Asn
	305					310					315				320
Glu	Asn	Ile	Asn	His	Tyr	Phe	Ser	Ile	Ser	Thr	Asn	Tyr	Tyr	Thr	Asn
				325					330					335	
Tyr	Asn	Glu	Thr	Asn	Ser	Phe	Thr	Asn	Gln	Leu	Ser	Ser	Gly	Ile	Met
			340					345					350		
Tyr	Glu	Phe	Leu	Pro	Gln	Lys	Thr	Phe	Asn	Pro	Tyr	Leu	Ile	Ser	Gly
		355					360					365			
Leu	Phe	Phe	Ala	Tyr	Asn	Gln	Asn	Asn	Lys	Asp	Ile	Lys	Ser	Ile	Ser
		370				375					380				
Arg	Pro	Ile	Arg	Ile	Lys	Asn	Ile	Leu	Gln	Val	Gly	Ile	Glu	Asn	Glu
					390					395					400
Leu	Gly	Phe	Leu	Phe	Lys	Met	Leu	Lys	Tyr	Arg	Asn	Thr	Glu	Tyr	Ile
				405					410					415	
Phe	Lys	Ile	Tyr	Ser	Lys	Val	Asn	Tyr	Ile	Pro	Ile	Ala	Tyr	Asn	Leu
			420					425					430		
Asp	Glu	Lys	Lys	Leu	Glu	Lys	His	Ser	Ile	Asn	Phe	Asn	Tyr	Leu	Gly
		435					440					445			
Ile	Gly	Ile	Val	Val	Lys										
		450													
<210> 385															
<211> 436															
<212> PRT															
<213> Homo sapiens															
<400> 385															
Tyr	Ser	Tyr	Asn	Tyr	Ala	Ile	Gln	Tyr	Lys	Asn	Glu	Gly	Ile	Asp	Lys
	1					5			10					15	
Tyr	Tyr	Phe	Glu	Ile	Leu	Asn	Asp	Gly	Phe	Gly	Phe	Ser	Leu	Ser	Asp
			20					25					30		
Phe	Phe	Asp	Asp	Leu	Arg	Ser	Gly	Ser	Leu	Ile	Phe	Thr	Tyr	Val	Ser
		35					40					45			
Lys	Tyr	Asn	Phe	Ile	Ile	Asn	Leu	Glu	Ala	His	Met	Leu	Thr	Tyr	Arg
		50				55					60				
Gly	Tyr	Lys	Asp	Ser	Pro	Lys	Ser	Leu	Ile	Ser	Arg	Thr	Asp	Leu	Ile
		65				70					75				80

Glu Ile Gly Phe Met Tyr Tyr Phe Pro Ile Leu Leu Leu Ile Asn Gly  
                                   85                                  90                                  95  
 Lys Asn Phe Gly Glu Ile Asp Leu Gly Ile Gly Val Lys Asn Leu Leu  
                                   100                                  105                                  110  
 Phe Gly Asp Trp Gly Gly His Leu Met Gln Ser Ile Ile His Leu Ile  
                                   115                                  120                                  125  
 Leu Asn Gln His Arg Pro Ile Pro Ser Ile Lys Ser Tyr Asp Ser Tyr  
                                   130                                  135                                  140  
 Asn Tyr Arg Gly Phe Leu Ser Phe Ala Leu Asn Tyr Ser Tyr Met Asn  
                                   145                                  150                                  155                                  160  
 Phe Leu Asn Leu Glu Asn Tyr Met Asp Leu Ser Tyr Phe Ala Asp Tyr  
                                   165                                  170                                  175  
 Phe Ile Lys Asn Ser Ile Gly Ile Thr Leu Lys Asn Glu Asn Ile Gly  
                                   180                                  185                                  190  
 Phe Asp Ile Lys Leu Tyr Ser Gln Ile Gln Asn Gln Ile Lys Ser Leu  
                                   195                                  200                                  205  
 Lys Thr Tyr Ser Lys Thr Gln Glu Ala Glu Thr Gly Ile Gly Ile Asn  
                                   210                                  215                                  220  
 Tyr Gln Phe Tyr Ser Lys Asn Phe Phe Ile Thr Asn Asn Leu Asn Ile  
                                   225                                  230                                  235                                  240  
 Lys Asn Phe Ser Thr Lys Glu Asn Phe Leu Ser Val Gly Gly Phe Gly  
                                   245                                  250                                  255  
 Ile Ile Ile Thr Pro Glu Glu Tyr Lys Lys Ile Ser Glu Ser Asn Asn  
                                   260                                  265                                  270  
 Glu Phe Asn Val Ile Ser Asn Asn Phe Tyr Phe Gly Phe Asp Ile Met  
                                   275                                  280                                  285  
 Ile Pro Leu Lys Ile Arg Asn Ser Leu Phe Tyr Lys Ile Asn Glu Asn  
                                   290                                  295                                  300  
 Ile Asn His Tyr Phe Ser Ile Ser Thr Asn Tyr Tyr Thr Asn Tyr Asn  
                                   305                                  310                                  315                                  320  
 Glu Thr Asn Ser Phe Thr Asn Gln Leu Ser Ser Gly Ile Met Tyr Glu  
                                   325                                  330                                  335  
 Phe Leu Pro Gln Lys Thr Phe Asn Pro Tyr Leu Ile Ser Gly Leu Phe  
                                   340                                  345                                  350  
 Phe Ala Tyr Asn Gln Asn Asn Lys Asp Ile Lys Ser Ile Ser Arg Pro  
                                   355                                  360                                  365  
 Ile Arg Ile Lys Asn Ile Leu Gln Val Gly Ile Glu Asn Glu Leu Gly  
                                   370                                  375                                  380



Phe Leu Phe Lys Met Leu Lys Tyr Arg Asn Thr Glu Tyr Ile Phe Lys  
385 390 395 400

Ile Tyr Ser Lys Val Asn Tyr Ile Pro Ile Ala Tyr Asn Leu Asp Glu  
405 410 415

Lys Lys Leu Glu Lys His Ser Ile Asn Phe Asn Tyr Leu Gly Ile Gly  
420 425 430

Ile Val Val Lys  
435

<210> 386

<211> 1365

<212> DNA

<213> Homo sapiens

<400> 386

```
atgCGGttta aaaaaatatt tttaataata ttataaattt ctaattttaa agttttattct 60
tataattatg caatccaata taaaaatgaa ggtattgaca aatattattt tgaaatacta 120
aatgatggat tcggattttc attaaagcga ttttttgatg acttgagaag tgggttctctt 180
atttttacct atgtttcaaa atacaatttt ataataaatt tagaagcaca catggttaacc 240
tatagggggt ataaagactc tccgaaatct ttaattagta gaacagactt aattgaaata 300
ggcttcatgt actattttcc aattttattg ctaattaatg gaaaaaattt tggagaaata 360
gacttgggaa ttggagttaa aaacttatta tttggagact ggggagggca tttaatgcaa 420
agcataattc acctcatttt aaatcaacac cgtccaattc caagtataaa aagctacgac 480
agctacaatt atagaggatt tttaagcttt gctctaaatt actcttacct gaatttttta 540
aathtagaaa attatatgga cttatcttat tttgcagatt attttattaa aaacagtatt 600
ggaattacct taaaaaatga aaatattgga ttgatataa aactttattc ccaaattcaa 660
aatcaaatca aaagcctcaa aacatattca aaaacacaag aagcagaaac aggaattgga 720
ataaattatc aattttactc taaaaatttt ttcataacca ataattttaa cattaaaaat 780
ttttcaacca aagaaaattt cttaaagcgtt gggggatttg gaataatcat tacacctgaa 840
gaatacaaaa aaatatcaga atcaaaataat gaatttaatg ttataagtaa taattttttac 900
tttggatttg atattatgat cccattaaaa ataagaaatt cattatttta taaaataaat 960
gaaaacatca accattactt ttcaatatca acaaattatt acactaatta taatgaaact 1020
aatagcttta caaatcaatt atcatcaggc atcatgtatg aattttttacc acaaaaaaca 1080
ttcaatcctt acctaatctt gggattattt tttgcctata atcaaaaaca taaagatatc 1140
aaaagcatct caagaccaat aagaataaaa aacattcttc aagttggaat tgaaaatgaa 1200
ttaggatttt tgttcaaaat gctaaaatac cgcaacactg agtatatttt caaaatatat 1260
tcaaaagtta actatattcc tatagcttat aacttagatg aaaaaaatt agaaaaacat 1320
tctattaact ttaattattt aggaattgga atagtcgtta aataa 1365
```

<210> 387

<211> 1311

<212> DNA

<213> Homo sapiens

<400> 387

```
tattcttata attatgcaat ccaatataaa aatgaaggta ttgacaaata ttattttgaa 60
atactaaatg atggattcgg attttcatta agcgattttt ttgatgactt gagaagtggt 120
tctcttattt ttacctatgt ttcaaaatac aattttataa taaatttaga agcacacatg 180
ttaacctata ggggttataa agactctccg aaatctttaa ttagtagaac agacttaatt 240
gaaataggct tcatgtacta tttccaatt ttattgctaa ttaatggaaa aaattttgga 300
gaaatagact tgggaattgg agttaaaaac ttattatttg gagactgggg agggcattta 360
atgcaaagca taattcacct cattttaaat caacaccgtc caattccaag tataaaaagc 420
tacgacagct acaattatag aggattttta agctttgctc taaattactc ttacatgaat 480
tttttaaat tagaaaatta tatggactta tcttattttg cagattattt tattaanaac 540
agtattggaa ttaccttaaa aaatgaaaat attggatttg atataaaact ttattcccaa 600
```

```

attcaaaatc aaatcaaaag cctcaaaaaca tattcaaaaa cacaagaagc agaaacagga 660
attggaataa attatcaatt ttactctaaa aattttttca taaccaataa tttaaacatt 720
aaaaatTTTT caaccaaaga aaatttctta agcgttgggg gatttggaat aatcattaca 780
cctgaagaat acaaaaaaat atcagaatca aataatgaat ttaaatgttat aagtaataat 840
ttttactttg gatttgatat tatgatccca ttaaaaataa gaaattcatt attttataaa 900
ataaatgaaa acatcaacca ttacttttca atatcaacaa attattacac taattataat 960
gaaactaata gctttacaaa tcaattatca tcaggcatca tgtatgaatt tttaccacaa 1020
aaaacattca atccttacct aatttcggga ttattttttg cctataatca aaacaataaa 1080
gatatcaaaa gcatctcaag accaataaga ataaaaaaca ttcttcaagt tggaattgaa 1140
aatgaattag gatttttggt caaaatgcta aaataccgca acactgagta tattttcaaa 1200
atatattcaa aagttaacta tattcctata gcttataact tagatgaaaa aaaattagaa 1260
aaacattcta ttaactttaa ttatttagga attggaatag tcgttaaata a 1311

```

<210> 388

<211> 336

<212> PRT

<213> Homo sapiens

<400> 388

```

Met Lys Ser Phe Leu Phe Trp Val Ile Leu Gly Thr Val Gly Ile Ser
  1             5             10             15

```

```

Ser Phe Ala Gln Asn Thr Pro Val Ala Ile Ile Asn Leu Tyr Lys Asn
      20             25             30

```

```

Glu Ile Ile Thr Lys Thr Gly Phe Asp Ser Lys Val Asp Ile Phe Lys
    35             40             45

```

```

Lys Thr Gln Gly Arg Asp Leu Thr Asp Ala Glu Lys Lys Gln Val Leu
    50             55             60

```

```

Gln Val Leu Ile Ala Asp Val Leu Phe Ser Gln Glu Ala Ser Lys Gln
    65             70             75             80

```

```

Gly Ile Lys Ile Ser Asp Asp Glu Val Met Gln Thr Ile Arg Thr Gln
      85             90             95

```

```

Phe Gly Leu Val Asn Phe Thr Asp Glu Gln Ile Lys Gln Met Ile Glu
    100            105            110

```

```

Lys Gln Gly Thr Asn Trp Gly Glu Leu Leu Ser Ser Met Lys Arg Ser
    115            120            125

```

```

Leu Ser Ser Gln Lys Leu Val Leu Lys Gln Ala Gln Pro Lys Phe Ser
    130            135            140

```

```

Glu Ile Lys Thr Pro Ser Glu Lys Glu Ile Val Glu Tyr Tyr Glu Ala
    145            150            155            160

```

```

Asn Lys Thr Lys Phe Val Asn Pro Asp Ile Ser Arg Val Ser His Ile
    165            170            175

```

```

Phe Phe Ser Thr Lys Asp Lys Lys Arg Ser Asp Val Leu Asp Gln Ala
    180            185            190

```

```

Lys Asn Ile Leu Ser Gln Ile Arg Ser Lys Lys Ile Thr Phe Glu Glu
    195            200            205

```

Ala Val Arg Lys Tyr Ser Asn Asp Glu Ser Ser Lys Ala Lys Asn Gly  
 210 215 220

Asp Leu Gly Phe Leu Ser Arg Gly Asp Gln Asn Ala Gln Asn Leu Leu  
 225 230 235 240

Gly Ala Asp Phe Val Lys Glu Val Phe Asn Phe Asn Lys Gly Asp Ile  
 245 250 255

Ser Ser Pro Ile Ala Ser Lys Glu Gly Phe His Ile Val Lys Val Thr  
 260 265 270

Glu Lys Tyr Ala Gln Arg Phe Leu Gly Leu Asn Asp Lys Val Ser Pro  
 275 280 285

Thr Ala Asp Leu Ile Val Lys Asp Ala Ile Arg Asn Asn Met Ile Asn  
 290 295 300

Val Gln Gln Gln Gln Ile Val Val Gln Val Gln Gln Asp Met Tyr Gly  
 305 310 315 320

Lys Leu Asn Lys Ser Ala Asn Ile Gln Ile Leu Asp Ser Ser Leu Lys  
 325 330 335

<210> 389  
 <211> 317  
 <212> PRT  
 <213> Homo sapiens

<400> 389  
 Gln Asn Thr Pro Val Ala Ile Ile Asn Leu Tyr Lys Asn Glu Ile Ile  
 1 5 10 15

Thr Lys Thr Gly Phe Asp Ser Lys Val Asp Ile Phe Lys Lys Thr Gln  
 20 25 30

Gly Arg Asp Leu Thr Asp Ala Glu Lys Lys Gln Val Leu Gln Val Leu  
 35 40 45

Ile Ala Asp Val Leu Phe Ser Gln Glu Ala Ser Lys Gln Gly Ile Lys  
 50 55 60

Ile Ser Asp Asp Glu Val Met Gln Thr Ile Arg Thr Gln Phe Gly Leu  
 65 70 75 80

Val Asn Phe Thr Asp Glu Gln Ile Lys Gln Met Ile Glu Lys Gln Gly  
 85 90 95

Thr Asn Trp Gly Glu Leu Leu Ser Ser Met Lys Arg Ser Leu Ser Ser  
 100 105 110

Gln Lys Leu Val Leu Lys Gln Ala Gln Pro Lys Phe Ser Glu Ile Lys  
 115 120 125

Thr Pro Ser Glu Lys Glu Ile Val Glu Tyr Tyr Glu Ala Asn Lys Thr

130 135 140

Lys Phe Val Asn Pro Asp Ile Ser Arg Val Ser His Ile Phe Phe Ser  
145 150 155 160

Thr Lys Asp Lys Lys Arg Ser Asp Val Leu Asp Gln Ala Lys Asn Ile  
165 170 175

Leu Ser Gln Ile Arg Ser Lys Lys Ile Thr Phe Glu Glu Ala Val Arg  
180 185 190

Lys Tyr Ser Asn Asp Glu Ser Ser Lys Ala Lys Asn Gly Asp Leu Gly  
195 200 205

Phe Leu Ser Arg Gly Asp Gln Asn Ala Gln Asn Leu Leu Gly Ala Asp  
210 215 220

Phe Val Lys Glu Val Phe Asn Phe Asn Lys Gly Asp Ile Ser Ser Pro  
225 230 235 240

Ile Ala Ser Lys Glu Gly Phe His Ile Val Lys Val Thr Glu Lys Tyr  
245 250 255

Ala Gln Arg Phe Leu Gly Leu Asn Asp Lys Val Ser Pro Thr Ala Asp  
260 265 270

Leu Ile Val Lys Asp Ala Ile Arg Asn Asn Met Ile Asn Val Gln Gln  
275 280 285

Gln Gln Ile Val Val Gln Val Gln Gln Asp Met Tyr Gly Lys Leu Asn  
290 295 300

Lys Ser Ala Asn Ile Gln Ile Leu Asp Ser Ser Leu Lys  
305 310 315

&lt;210&gt; 390

&lt;211&gt; 1011

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 390

```

atgaagagtt ttttattttg ggtaatatatt ggaactgtag ggattagctc ttttgctcaa 60
aatactcctg ttgctattat taatttatat aagaatgaaa ttattactaa aactggtttt 120
gattctaagg ttgatataatt taaaaagacc caaggtagag acttaactga tgctgagaaa 180
aagcaagttc tgcaagtttt aatagcagat gttcttttta gtcaagaggc ttcaaagcaa 240
ggaattaaaa tctcagatga tgagggttatg caaacaatta gaactcaatt tgggcttggtg 300
aattttactg atgaacaaat caagcaaattg atagaaaaaac aagggtacaaa ttggggcgag 360
cttttgtctt caatgaaaag atctctgtct tctcaaaaagc ttgtttttaa gcaagctcag 420
cctaagtttt ctgaaattaa aactcctagt gagaaagaaa ttgttgagta ttatgaggct 480
aataaaacta agtttgtaaa tcccgatatt tcaagagtta gtcatatctt tttttctact 540
aaagataaaa aaagatcaga tgttttagat caagcaaaaa atattttaag ccaaataaga 600
tcaaaaaaaa ttacttttga agaagctgta agaaaatatt caaatgacga atcttctaag 660
gctaaaaatg gtgatcttgg gtttttatca agaggtgatc aaaatgctca aaatcttctt 720
ggagccgatt ttgtgaaaga ggtttttaat ttaataaagg gtgatataatc ttgcctatt 780
gcttcaaagg aagggtttca tattgttaaa gttacagaaa aatatgctca gagattttta 840
ggtttgaatg ataaagtgtc tcctactgca gatttgattg tcaaagatgc aataagaaat 900
aacatgatta atgttcaaca acagcaaatt gttgttcaag tacagcaaga tatgtatggt 960
aagcttaaca agtctgcaaa tatacaaatc ttggattcta gtctaaaata a 1011

```

<210> 391  
 <211> 954  
 <212> DNA  
 <213> Homo sapiens

<400> 391  
 caaaatactc ctgttgctat tattaattta tataagaatg aaattattac taaaactggt 60  
 tttgattcta aggttgatat atttaaaaag acccaaggta gagacttaac tgatgctgag 120  
 aaaaagcaag ttctgcaagt tttaatagca gatgttcttt ttagtcaaga ggcttcaaag 180  
 caaggaatta aaatctcaga tgatgaggtt atgcaaacia ttagaactca atttgggctt 240  
 gtgaatttta ctgatgaaca aatcaagcaa atgatagaaa aacaagggtac aaattggggc 300  
 gagcttttgt ctccaatgaa aagatctctg tcttctcaaa agcttggttt aaagcaagct 360  
 cagcctaagt tttctgaaat taaaactcct agtgagaaaag aaattggtga gtattatgag 420  
 gctaataaaa ctaagtttgt aaatcccgat atttcaagag ttagtcatat ctttttttct 480  
 actaaagata aaaaaagatc agatgtttta gatcaagcaa aaaatatattt aagccaaata 540  
 agatcaaaaa aaattacttt tgaagaagct gtaagaaaat attcaaatga cgaatcttct 600  
 aaggctaaaa atgggtgatct tgggttttta tcaagaggtg atcaaaatgc tcaaaatctt 660  
 cttggagccg attttgtgaa agaggttttt aattttaata aggggtgatat atcttcgcct 720  
 attgcttcaa aggaagggtt tcatattgtt aaagttacag aaaaatatgc tcagagattt 780  
 ttaggtttga atgataaagt gtctcctact gcagatttga ttgtcaaaga tgcaataaga 840  
 aataacatga ttaatgttca acaacagcaa attgtgttgc aagtacagca agatatgtat 900  
 ggtaagctta acaagtctgc aaatatacaa atcttggatt ctagtctaaa ataa 954

<210> 392  
 <211> 173  
 <212> PRT  
 <213> Homo sapiens

<400> 392  
 Met Lys Leu Pro Lys Leu Tyr Lys Leu Ile Leu Leu Phe Leu Phe Thr  
 1 5 10 15  
 Thr Arg Leu Phe Ser Val Lys Asp Glu Lys Ser Asp Asn Lys Leu Glu  
 20 25 30  
 Leu Phe Ser Asn Val Glu Thr Lys Ile Lys Lys Asn Ser Lys Asn Tyr  
 35 40 45  
 Asp Ser Asn Ser Asn Ser Lys Lys Ile Lys Lys Glu Ser Ile Leu Lys  
 50 55 60  
 Arg Asp Thr Asn Ser Glu Lys Asn Ile Asn Ser Asn Ile Tyr Ile Gln  
 65 70 75 80  
 Lys Ser Lys Lys Ile Asn Tyr Pro Asn Arg Asn Leu Gly Asn Asn Ile  
 85 90 95  
 Asn Gln Lys Thr Ala Asn Asp Val Asn Phe Thr Lys Thr Ser Tyr Val  
 100 105 110  
 Lys Val Tyr Pro Asn Tyr Lys Asp Asp Asn Phe Gln Glu Ile Lys Asn  
 115 120 125  
 Ala Asn Lys Phe Pro Ala Lys Thr Glu Lys Thr His Met Leu Ile Gly  
 130 135 140  
 Pro Ile Leu Lys Asp Asn Leu Gly Ile Ile Ile Lys Met Leu Lys Thr

Lys Gly Tyr Thr Leu Ile Glu Tyr Ile Glu Asp Asn Asn

145                      150                      155                      160  
                              165                      170

```
<210> 393
<211> 80
<212> PRT
<213> Homo sapiens
```

```
<400> 393
Val Lys Asp Glu Lys Ser Asp Asn Lys Leu Glu Leu Phe Ser Asn Val
  1.          5          10          15
```

Glu Thr Lys Ile Lys Lys Asn Ser Lys Asn Tyr Asp Ser Asn Ser Asn  
20 25 30

Ser Lys Lys Ile Lys Lys Glu Ser Ile Leu Lys Arg Asp Thr Asn Ser  
35 40 45

Glu Lys Asn Ile Asn Ser Asn Ile Tyr Ile Gln Lys Ser Lys Lys Ile  
50 55 60

Asn Tyr Pro Asn Arg Asn Leu Gly Asn Asn Ile Asn Gln Lys Thr Ala  
65 70 75 80

```
<210> 394
<211> 522
<212> DNA
<213> Homo sapiens
```

<400> 394						
atgaaattac	caaaacttta	caaattaata	ctactctttc	tttttacaac	aagattggtt	60
tcagtaaaa	atgaaaaatc	agacaataaa	ttggaattat	tttcaaactg	agaacacaaa	120
atcaaaaaaa	attctaaaaa	ttacgactat	caattcaaaa	gcaaaaagat	caaaaaagaa	180
tcacttttaa	aaagagatac	aaacagcgaa	aaaaatataa	attccaatat	atacatacaa	240
aaatcaaaaa	aaattaatta	ccccaacaga	aatttaggca	ataatatcaa	tcaaaaaact	300
gcaaatgatg	taaatttttc	aaaaactagt	tatgttaaa	tttatcccaa	ctataaagac	360
gataactttc	aagaatttaa	aaatgcta	aaatttccag	ctaaaaccga	aaaaactcac	420
atgctaactg	gcccaatatt	aaaagataat	ctaggataat	taattaaaa	gctaaaaaca	480
aagqatatac	ctttaataga	atacatagac	gacataaatt	aa		522

```
<210> .395
<211> 459
<212> DNA
<213> Homo sapiens
```

<400> 395						
gtaaaagatg	aaaaatcaga	caataaattg	gaattatttt	caaacgtaga	aacaaaaatc	60
aaaaaaaaatt	ctaaaaatta	cgactcaaat	tcaaacagca	aaaagatcaa	aaaagaatca	120
attttaaaaa	gagatacaaa	cagcgaaaaa	aatataaatt	ccaatatata	catacaaaaa	180
tcaaaaaaaaa	ttaattaccc	caacagaaat	ttaggcaata	atatcaatca	aaaaactgca	240
aatgatgtaa	attttcaaaa	aactagttat	gttaaagttt	atcccaacta	taaagcatga	300
aactttcaag	aaattaaaaa	tgctaataaa	tttcagcta	aaaccgaaaa	aactcacatg	360
ctaactcggcc	caatatataa	agataatcta	ggaataataa	ttaaaatgct	aaaaacaaag	420

ggatacactt taatagaata catagaggac aataattaa

459

&lt;210&gt; 396

&lt;211&gt; 261

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 396

Met Lys Asn Phe Lys Glu Val Ile Ile Ile Phe Asp Ser Gly Ile Gly  
 1 5 10 15

Gly Leu Ser Tyr Phe Lys Tyr Ile Lys Ser Arg Ile Gly Gly Cys Gln  
 20 25 30

Tyr Val Tyr Val Ala Asp Asn Lys Asn Phe Pro Tyr Gly Glu Lys Ser  
 35 40 45

Pro Glu Tyr Leu Leu Glu Ala Val Leu Phe Leu Ile Glu Lys Leu Lys  
 50 55 60

Lys Ile Tyr Asn Ile Gly Ala Leu Val Leu Ala Cys Asn Thr Ile Ser  
 65 70 75 80

Val Ser Val Tyr Asn Lys Leu Asn Phe Val Phe Pro Val Val Tyr Thr  
 85 90 95

Leu Pro Asp Val Ser Ser Val Ser Asp Leu Val Leu Lys Arg Val Leu  
 100 105 110

Leu Ile Ala Thr Asn Thr Thr Leu Glu Ser Lys Phe Val Lys Asp Gln  
 115 120 125

Val Asn Ile His Asn Asp Leu Ile Val Lys Ala Ala Gly Glu Leu Val  
 130 135 140

Asn Phe Val Glu Tyr Gly Glu Asn Tyr Lys Lys Tyr Ala Leu Arg Cys  
 145 150 155 160

Leu Glu Ala Leu Lys Phe Glu Val Val Asn Thr Gly Arg Glu Ile Val  
 165 170 175

Phe Leu Gly Cys Thr His Tyr Leu His Leu Lys Val Met Ile Glu Asp  
 180 185 190

Phe Leu Lys Ile Pro Val Tyr Glu Asn Arg Glu Leu Val Val Lys Asn  
 195 200 205

Leu Ile Arg Ser Met Asn Phe Ser Glu His Lys Gly Asn Tyr Tyr Lys  
 210 215 220

Asn Asp Phe Asp Phe Val Asp Asp Glu Phe Tyr Leu Thr Glu Asn Lys  
 225 230 235 240

Asn Leu Thr Phe Tyr Gln Asn Phe Cys Lys Lys Tyr Asn Leu Arg Phe  
 245 250 255

Lys Gly Met Ile Val  
 260

<210> 397  
 <211> 235  
 <212> PRT  
 <213> Homo sapiens

<400> 397  
 Arg Ile Gly Gly Cys Gln Tyr Val Tyr Val Ala Asp Asn Lys Asn Phe  
   1                  5                  10                  15  
 Pro Tyr Gly Glu Lys Ser Pro Glu Tyr Leu Leu Glu Ala Val Leu Phe  
           20                  25                  30  
 Leu Ile Glu Lys Leu Lys Lys Ile Tyr Asn Ile Gly Ala Leu Val Leu  
           35                  40                  45  
 Ala Cys Asn Thr Ile Ser Val Ser Val Tyr Asn Lys Leu Asn Phe Val  
           50                  55                  60  
 Phe Pro Val Val Tyr Thr Leu Pro Asp Val Ser Ser Val Ser Asp Leu  
   65                  70                  75                  80  
 Val Leu Lys Arg Val Leu Leu Ile Ala Thr Asn Thr Thr Leu Glu Ser  
           85                  90                  95  
 Lys Phe Val Lys Asp Gln Val Asn Ile His Asn Asp Leu Ile Val Lys  
           100                  105                  110  
 Ala Ala Gly Glu Leu Val Asn Phe Val Glu Tyr Gly Glu Asn Tyr Lys  
           115                  120                  125  
 Lys Tyr Ala Leu Arg Cys Leu Glu Ala Leu Lys Phe Glu Val Val Asn  
   130                  135                  140  
 Thr Gly Arg Glu Ile Val Phe Leu Gly Cys Thr His Tyr Leu His Leu  
   145                  150                  155                  160  
 Lys Val Met Ile Glu Asp Phe Leu Lys Ile Pro Val Tyr Glu Asn Arg  
           165                  170                  175  
 Glu Leu Val Val Lys Asn Leu Ile Arg Ser Met Asn Phe Ser Glu His  
           180                  185                  190  
 Lys Gly Asn Tyr Tyr Lys Asn Asp Phe Asp Phe Val Asp Asp Glu Phe  
           195                  200                  205  
 Tyr Leu Thr Glu Asn Lys Asn Leu Thr Phe Tyr Gln Asn Phe Cys Lys  
   210                  215                  220  
 Lys Tyr Asn Leu Arg Phe Lys Gly Met Ile Val  
   225                  230                  235

<210> 398  
 <211> 786  
 <212> DNA  
 <213> Homo sapiens

<400> 398



```

atgaaaaaatt tcaaagaagt aataattatt tttgattcag gaataggagg gctttcttat 60
tttaaatata ttaaaagtag aataggggga tgccaatatg tttatgttgc cgataataaa 120
aatttcctct atggagaaaa agtcctgaa tatcttctag aagcagtttt gtttttgatt 180
gagaagctta aaaaaatcta taatatttgg: gcattagttt tggcttgtaa tacaatttct 240
gttagtgat acaataaatt aaattttgtt tttccagtag tctatacttt gccagatgta 300
agttcagttt cagatcttgt tttaaaaaga gttcttttga ttgcaacaaa tactactctt 360
gaaagcaaatt ttgttaagga tcaagtaaat atacataatg atttgattgt aaaagctgct 420
ggagagcttg ttaattttgt tgaatatgga gagaattaca aaaaatatgc tcttagatgt 480
ttagaagctt taaaatttga agttgtaaat actggttagag aaattgtttt tcttggatgc 540
acgcattatt tgcattctaa ggtaattgata gaagattttt taaaaattcc tgtttatgag 600
aatcgtgaat tagtggtaaa aaatcttatt agatcaatga atttttctga acacaaagg 660
aattattata agaattgattt tgattttgta gatgatgagt tttatttgac cgaaaaataa 720
aatttgactt tttatcaaaa tttttgcaaa aaatataatc ttcgctttaa gggaatgata 780
gtttga 786

```

&lt;210&gt; 399

&lt;211&gt; 708

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 399

```

agaatagggg gatgccaata tgtttatgtt gccgataata aaaatttccc ttatggagaa 60
aaaagtcctg aatatcttct agaagcagtt ttgtttttga ttgagaagct taaaaaaatc 120
tataatattg gtgcattagt tttggcttgt aatacaattt ctgtagtgat atacaataaa 180
ttaaattttg tttttccagt agtctatact ttgccagatg taagttcagt ttcagatctt 240
gttttaaaaa gagttctttt gattgcaaca aatactactc ttgaaagcaa atttgtttaag 300
gatcaagtaa atatacataa tgattttgatt gtaaaagctg ctggagagct tgtaattttt 360
gttgaatatg gagagaatta caaaaaatat gctcttagat gtttagaagc tttaaaattt 420
gaagttgtaa atactggtag agaaattggt tttcttgat gcacgcatta tttgcatctt 480
aaggtaatga tagaagattt tttaaaaatt cctgtttatg agaatcgtga attagtggta 540
aaaaatctta ttagatcaat gaatttttct gaacacaaag gtaattatta taagaatgat 600
tttgattttg tagatgatga gttttatttg accgaaaata aaaatttgac tttttatcaa 660
aatttttgca aaaaatataa tcttcgcttt aagggaatga tagtttga 708

```

&lt;210&gt; 400

&lt;211&gt; 216

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 400

```

Met Ile Arg Leu Lys Val Leu Ile Leu Cys Leu Phe Gly Ile Phe Val
  1             5             10             15

```

```

Leu Asn Gly Phe Ala Asp Thr Asn Phe Glu Phe Asn Phe Gly Gly Gly
      20             25             30

```

```

Val Ala Phe Pro Val Ser Pro Phe Ser Ser Phe Tyr Asn Glu Ala Leu
      35             40             45

```

```

Glu Ile Asn Ala Lys Leu Lys Gln Asn Leu Pro Ser Asp Leu Ser Pro
      50             55             60

```

```

Ile Glu Lys Glu Glu Ile Val Gln Asn Phe Ser Asp Leu Ala Asn Ile
      65             70             75             80

```

```

Ala Lys Ala Gly Ile Arg Tyr Gly Thr Tyr Ala Gln Phe Gly Ala Lys
      85             90             95

```

Phe Asp Asp Phe Val Ser Ile Gly Phe Glu Leu Leu Phe Asn Ile Asn  
 100 105 110  
 Leu Leu Lys Ala Ile Lys Arg Ser Asp Gly Thr Ala Asn Glu Asn Phe  
 115 120 125  
 Ser Phe Ile Met Ala Ile Thr Pro Arg Phe Tyr Thr Lys Leu Asp Phe  
 130 135 140  
 Phe Val Leu Ala Leu Ala Phe Phe Thr Gly Pro Lys Ile Asn Ile Ala  
 145 150 155 160  
 Thr Ser Ser Ala Asp Ser Val Leu Ala Glu Leu Gly Thr Met Gly Trp  
 165 170 175  
 Asp Ile Gly Ala Arg Leu Ser Phe Ser Phe Leu Ile Leu Glu Gly Tyr  
 180 185 190  
 Tyr Val Trp Asn Ile Lys Asn Pro Lys Phe Ser Asp Phe Lys Phe Gly  
 195 200 205  
 Ile Gly Phe Glu Phe Gly Ile Val  
 210 215

<210> 401  
 <211> 195  
 <212> PRT  
 <213> Homo sapiens

<400> 401  
 Asp Thr Asn Phe Glu Phe Asn Phe Gly Gly Gly Val Ala Phe Pro Val  
 1 5 10 15  
 Ser Pro Phe Ser Ser Phe Tyr Asn Glu Ala Leu Glu Ile Asn Ala Lys  
 20 25 30  
 Leu Lys Gln Asn Leu Pro Ser Asp Leu Ser Pro Ile Glu Lys Glu Glu  
 35 40 45  
 Ile Val Gln Asn Phe Ser Asp Leu Ala Asn Ile Ala Lys Ala Gly Ile  
 50 55 60  
 Arg Tyr Gly Thr Tyr Ala Gln Phe Gly Ala Lys Phe Asp Asp Phe Val  
 65 70 75 80  
 Ser Ile Gly Phe Glu Leu Leu Phe Asn Ile Asn Leu Leu Lys Ala Ile  
 85 90 95  
 Lys Arg Ser Asp Gly Thr Ala Asn Glu Asn Phe Ser Phe Ile Met Ala  
 100 105 110  
 Ile Thr Pro Arg Phe Tyr Thr Lys Leu Asp Phe Phe Val Leu Ala Leu  
 115 120 125  
 Ala Phe Phe Thr Gly Pro Lys Ile Asn Ile Ala Thr Ser Ser Ala Asp  
 130 135 140  
 Ser Val Leu Ala Glu Leu Gly Thr Met Gly Trp Asp Ile Gly Ala Arg

```
<210> 402
<211> 651
<212> DNA
<213> Homo sapiens
```

<400> 402						
atgattaggc	ttaaagtttt	aattttgtgt	ttatttggga	tttttgtgtt	aaatggtttt	60
gcagatacta	attttgaatt	caattttgg	ggtggggttg	cttttctctg	tagtcccttt	120
tcaagctttt	acaatgaggc	tttagagatt	aatgcaaagc	ttaagcaaaa	tttgcccttca	180
gatttatccc	caatagaaaa	agaagagata	gtccaaaatt	tttcgatttt	agccaattatt	240
gctaaagctg	gaataagata	tgggaacttac	gctcaatttg	gcgctaaatt	tgatgatttt	300
gtttctattg	gatttgagct	tttgtttaac	attaatcttc	ttaaagcaat	aaagcgttcg	360
gatggaactg	caaatgaaaa	tttctcgttt	attatggcaa	taacaccaag	attttataca	420
aaattagatt	tttttgtttt	agcttttagcg	tttttcacag	gtcctaagat	caatatagcg	480
acttctttctg	cggattctgtt	tttagcagaa	ctgggaacaa	tgggctggga	tattggtgct	540
agacttttcat	tttctttttt	aattcttgaa	gggtactatg	tttggaaatg	taaaaacctt	600
aaattttctg	atttcaagtt	tqqaataggt	tttgaatttg	gaatttgtta	g	651

```
<210> 403
<211> 588
<212> DNA
<213> Homo sapiens
```

<400> 403							
gatactaatt	ttgaattcaa	ttttgggtggt	gggggttgctt	ttcctgttag	tcctttttca	60	
agctttttaca	atgaggcttt	agagattaat	gcaaagctta	agcaaaattt	gccttcagat	120	
ttatcccca	tagaaaaaga	agagatagtc	caaaattttt	ccgatttagc	caatattgct	180	
aaagctggaa	taagatatgg	aacttacgct	caatttggcg	ctaaatttga	tgattttggt	240	
tctattggat	ttgagctttt	gtttaacatt	aatcttctta	aagcaataaa	gcgttcggat	300	
ggaaactgcaa	atgaaaattt	ctcgttttatt	atggcaataa	caccaagatt	ttatacaaaa	360	
ttagattttt	ttgttttagc	tttagcgttt	ttcacaggtc	ctaaga+caa	tatagcgact	420	
tcttctgcgg	attctgtttt	agcagaactg	ggaacaatg	gctgggatat	tggtgctaga	480	
ctttctatttt	cttttttaat	ctctgaaggg	tactatgttt	ggaatatata	aaaccctaaa	540	
ttttctqatt	tcaagtttgg	aataggtttt	gaatttggaa	ttgtgtag		588	

```
<210> 404
<211> 232
<212> PRT
<213> Homo sapiens
```

```

<400> 404
Met Ile Asp Leu Thr Gln Glu Lys Gln Glu Ile Leu Ile Lys Asn Lys
  1                      5                      10                     15
Phe Leu Ala Lys Val Phe Gly Leu Met Ser Ile Gly Leu Leu Ile Ser
      20                      25                      30

```

Ala Val Phe Ala Tyr Ala Thr Ser Glu Asn Gln Thr Ile Lys Ala Ile  
35 40 45

Ile Phe Ser Asn Ser Met Ser Phe Met Ala Met Ile Leu Ile Gln Phe  
50 55 60

Gly Leu Val Tyr Ala Ile Ser Gly Ala Leu Asn Lys Ile Ser Ser Asn  
65 70 75 80

Thr Ala Thr Ala Leu Phe Leu Leu Tyr Ser Ala Leu Thr Gly Val Thr  
85 90 95

Leu Ser Ser Ile Phe Met Ile Tyr Thr Gln Gly Ser Ile Val Phe Thr  
100 105 110

Phe Gly Ile Thr Ala Gly Thr Phe Leu Gly Met Ser Val Tyr Gly Tyr  
115 120 125

Thr Thr Thr Thr Asp Leu Thr Lys Met Gly Ser Tyr Leu Ile Met Gly  
130 135 140

Leu Trp Gly Ile Ile Ile Ala Ser Leu Val Asn Met Phe Phe Arg Ser  
145 150 155 160

Ser Gly Leu Asn Phe Leu Ile Ser Ile Leu Gly Val Val Ile Phe Thr  
165 170 175

Gly Leu Thr Ala Tyr Asp Val Gln Asn Ile Ser Lys Met Asp Lys Met  
180 185 190

Leu Gln Asp Asp Thr Glu Ile Lys Asn Arg Met Ala Val Val Ala Ser  
195 200 205

Leu Lys Leu Tyr Leu Asp Phe Ile Asn Leu Phe Leu Tyr Leu Leu Arg  
210 215 220

Phe Leu Gly Gln Arg Arg Asn Asp  
225 230

<210> 405

<211> 194

<212> PRT

<213> Homo sapiens

<400> 405

Thr Ser Glu Asn Gln Thr Ile Lys Ala Ile Ile Phe Ser Asn Ser Met  
1 5 10 15

Ser Phe Met Ala Met Ile Leu Ile Gln Phe Gly Leu Val Tyr Ala Ile  
20 25 30

Ser Gly Ala Leu Asn Lys Ile Ser Ser Asn Thr Ala Thr Ala Leu Phe  
35 40 45

Leu Leu Tyr Ser Ala Leu Thr Gly Val Thr Leu Ser Ser Ile Phe Met  
50 55 60

Ile Tyr Thr Gln Gly Ser Ile Val Phe Thr Phe Gly Ile Thr Ala Gly

65						70											80
Thr	Phe	Leu	Gly	Met 85	Ser	Val	Tyr	Gly	Tyr 90	Thr	Thr	Thr	Thr	Asp 95	Leu		
Thr	Lys	Met	Gly 100	Ser	Tyr	Leu	Ile	Met 105	Gly	Leu	Trp	Gly	Ile 110	Ile	Ile	Ile	
Ala	Ser	Leu	Val	Asn	Met	Phe	Phe 120	Arg	Ser	Ser	Gly	Leu 125	Asn	Phe	Leu		
Ile	Ser 130	Ile	Leu	Gly	Val	Val 135	Ile	Phe	Thr	Gly	Leu 140	Thr	Ala	Tyr	Asp		
Val 145	Gln	Asn	Ile	Ser	Lys 150	Met	Asp	Lys	Met	Leu 155	Gln	Asp	Asp	Thr	Glut 160		
Ile	Lys	Asn	Arg	Met	Ala	Val	Val	Ala	Ser 170	Leu	Lys	Leu	Tyr	Leu 175	Asp		
Phe	Ile	Asn	Leu	Phe	Leu	Tyr	Leu	Leu 185	Arg	Phe	Leu	Gly	Gln 190	Arg	Arg		

Asn Asp

```
<210> 406
<211> 699
<212> DNA
<213> Homo sapiens
```

<400>	406					
atgatcgatt	taacacaaga	aaaacaagaa	atactaataa	aaaacaagtt	tttagccaaa	60
gtttttcggg	ttatgtccaat	tggactttta	atctcagcag	tattttgcata	tgcaacctca	120
gaaaatcaaa	caatcaaaagc	aataatatatc	tcaaattcaa	tgtcatttat	ggctatgata	180
cttatacaat	ttggacttgt	atatgcaata	agtgggtgctc	ttaataaaaat	atcaagcaat	240
actgcaacag	ctcttttctt	gctctactca	gcactaacag	gagtaacatt	atcttctata	300
tttatgattt	acacacaagg	atcaatatga	ttcacattcg	gaattactgc	tggaacctatt	360
cttggaaatgt	ctgtttatgg	atacactaca	acaaagatc	taacaaaaat	gggaagctat	420
tttaaatatgg	cgttatgggg	aatcattatt	gcattctcttg	ttaatatgtt	ttttagaagc	480
tcagggtctta	atttccttat	atctattttg	ggcgtagtta	tattttacagg	cttaacagct	540
tatgatgttc	aaaatatctc	taaaatggag	aaaatgctac	aagacgacac	tgaataaaaa	600
aacagaattgg	cggttgtagc	ctcacttaaa	ctttattttag	attttataaa	tttattctta	660
tatcttctaa	gattttttggg	ccaagaaga	aacgatttaa			699

```
<210> 407
<211> 585
<212> DNA
<213> Homo sapiens
```

<400> 407						
acctcagaaa	atcaaacaat	caaagcaata	atattctcaa	attcaatgtc	atttatggct	60
atgatactta	tacaatttgg	acttgatat	gcaataagtg	gtgctcttaa	taaaatatca	120
agcaatactg	caacagctct	tttcttgctc	tactcagcac	taacaggagt	aacattatct	180
tctatatatta	tgatttacac	acaaggatca	atagtattca	cattcggaat	tactgctgga	240
acatttcttg	gaatgtctgt	ttatggatac	attacaacaa	cagatctaac	aaaaatggga	300
agctatttaa	taatgggctt	atggggaatc	attattgcat	ctcttggtta	tatgtttttt	360
agaaqctcag	gtcttaattt	ccttatatct	attttgggcg	tagttatatt	tacaggctta	420

acagcttatg atgttcaaaa tatttctaaa atggacaaaa tgctacaaga cgacactgaa 480  
 ataaaaaaca gaatggcggg tgtagcctca cttaaacttt atttagattt tataaatTTA 540  
 ttcttatatc ttctaagatt tttgggccaa agaagaaacg attaa 585

<210> 408

<211> 214

<212> PRT

<213> Homo sapiens

<400> 408

Met Lys Phe Phe Phe Leu Leu Gln Ile Ala Leu Ile Leu Leu Ser Asn  
 1 5 10 15

Ser Ser Leu Leu Phe Gly Gln Ser Pro Pro Lys Glu Lys Glu Asp Ser  
 20 25 30

Leu Leu Leu Tyr Lys Glu Gly Lys Phe Lys Glu Ala Ile Leu Asn Thr  
 35 40 45

Leu Glu Glu Ile Arg Leu Asn Pro Ser Asn Leu Asp Ala Arg Thr Ile  
 50 55 60

Leu Ile Trp Ser Leu Ile Ala Ile Gly Glu Tyr Lys Arg Ala Glu Lys  
 65 70 75 80

Glu Ala Ile Ile Gly Leu Gly Ile Lys Lys His Asp Ile Arg Ile Ile  
 85 90 95

Gln Ala Leu Gly Glu Ala Tyr Phe Phe Gln Lys Asn Tyr Asp Asn Ala  
 100 105 110

Leu Lys Tyr Phe Gln Glu Tyr Ile Ser Leu Asp Ser Lys Gly Ala Arg  
 115 120 125

Ile Ile Lys Val Tyr Asn Leu Ile Ala Asp Ser Phe Tyr Glu Leu Lys  
 130 135 140

Arg Tyr Asn Glu Ala Asp Phe Ala Tyr Glu His Ala Leu Arg Phe Ser  
 145 150 155 160

Pro Asn Asn Gln Asn Leu Leu Ile Lys Leu Ala Arg Ser Arg Ile Asn  
 165 170 175

Ala Lys Asn Lys Ile Leu Ala Glu Glu Ala Leu Ile Lys Ile Leu Thr  
 180 185 190

Ile Ser Pro Asn Asn Leu Glu Ala Lys Asn Leu Leu Glu Glu Leu Lys  
 195 200 205

Lys Ser Asn Asn Lys Pro  
 210

<210> 409

<211> 185

<212> PRT

<213> Homo sapiens

<400> 409

Glu Asp Ser Leu Leu Leu Tyr Lys Glu Gly Lys Phe Lys Glu Ala Ile  
 1 5 10 15  
 Leu Asn Thr Leu Glu Glu Ile Arg Leu Asn Pro Ser Asn Leu Asp Ala  
 20 25 30  
 Arg Thr Ile Leu Ile Trp Ser Leu Ile Ala Ile Gly Glu Tyr Lys Arg  
 35 40 45  
 Ala Glu Lys Glu Ala Ile Ile Gly Leu Gly Ile Lys Lys His Asp Ile  
 50 55 60  
 Arg Ile Ile Gln Ala Leu Gly Glu Ala Tyr Phe Phe Gln Lys Asn Tyr  
 65 70 75 80  
 Asp Asn Ala Leu Lys Tyr Phe Gln Glu Tyr Ile Ser Leu Asp Ser Lys  
 85 90 95  
 Gly Ala Arg Ile Ile Lys Val Tyr Asn Leu Ile Ala Asp Ser Phe Tyr  
 100 105 110  
 Glu Leu Lys Arg Tyr Asn Glu Ala Asp Phe Ala Tyr Glu His Ala Leu  
 115 120 125  
 Arg Phe Ser Pro Asn Asn Gln Asn Leu Leu Ile Lys Leu Ala Arg Ser  
 130 135 140  
 Arg Ile Asn Ala Lys Asn Lys Ile Leu Ala Glu Glu Ala Leu Ile Lys  
 145 150 155 160  
 Ile Leu Thr Ile Ser Pro Asn Asn Leu Glu Ala Lys Asn Leu Leu Glu  
 165 170 175  
 Glu Leu Lys Lys Ser Asn Asn Lys Pro  
 180 185

&lt;210&gt; 410

&lt;211&gt; 645

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 410

atgaaatttt tttttctatt acaaatagct ttaattctac tatccaattc aagcttggtta 60  
 tttggacaat caccgcctaa agaaaaagaa gactctcttc ttctatataa agaaggaaaa 120  
 tttaaagaag ctatttttaa cacgtagtaa gaaattcgac taaatcctag taacttagat 180  
 gctaggacaa tattgatatg gagcttaata gccataggag aatacaagag agctgaaaaa 240  
 gaggcgatta taggacttgg cattaaaaaa catgacataa gaattattca agcactagga 300  
 gaagcttatt tctttcaaaa aaattatgac aatgcattaa aatactttca agaatacatt 360  
 agccttgatt ctaaaggagc aagaataata aaagtttata atttaattgc agattctttt 420  
 tatgagctaa aaagatataa tgaagccgat tttgcatacg aacatgcatt acgtttttct 480  
 cctaataacc aaaatctatt aataaaatta gcaagatcaa gaataaatgc aaaaaataaa 540  
 atattagcag aagaagcact aattaaaatt cttacaatct ctctaataa tctagaggca 600  
 aaaaatttac tagaagaatt aaaaaaagc aacaacaaac cttga 645

&lt;210&gt; 411

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

```

<400> 411
gaagactctc ttcttctata taaagaagga aaatttaaag aagctatattt aaacacgtta 60
gaagaaattc gactaaatcc tagtaactta gatgctagga caatattgat atggagctta 120
atagccatag gagaatacaa gagagctgaa aaagaggcga ttataggact tggcattaaa 180
aaacatgaca taagaattat tcaagcacta ggagaagctt atttctttca aaaaaattat 240
gacaatgcat taaaataactt tcaagaatac attagccttg attctaaagg agcaagaata 300
ataaaagttt ataattttaat tgcagattct ttttatgagc taaaaagata taatgaagcc 360
gattttgcat acgaacatgc attacgtttt tctcctaata accaaaatct attaataaaa 420
ttagcaagat caagaataaa tgcaaaaaat aaaatattag cagaagaagc actaattaaa 480
attcttacia tctctcctaa taatctagag gcaaaaaatt tactagaaga attaaaaaaa 540
agcaacaaca aaccttga                                     558

```

<210> 412

<211> 1494

<212> PRT

<213> Homo sapiens

<400> 412

```

Met Lys Lys Ala Asn Phe Leu Ser Thr Asn Phe Leu Ile Leu Leu Leu
  1              5              10              15

Val Cys Phe Val Asn Val Asn Leu Phe Ser Lys Asp Ile Phe Lys Phe
      20              25              30

Lys Leu Val Asp Gln Phe Phe Pro Phe Tyr Tyr Lys Asn Asn Lys Gly
      35              40              45

Glu Tyr Glu Gly Leu Ile Phe Ser Ile Leu Asp Lys Trp Ala Lys Asp
      50              55              60

Asn Asn Ala Asp Ile Met Val Glu His Ile Asp Asn Leu Asn Glu Ser
      65              70              75              80

Glu Ile Glu Asp Glu Ala Ile Tyr Leu Gly Leu Thr Tyr Asn Val Lys
      85              90              95

Leu Asn Asp Phe Phe Tyr Phe Lys Ser Glu Leu Ala Arg Ser Ile Ser
      100             105             110

Ile Leu Phe Phe Lys Asn Ser Asn Lys Lys Tyr Lys Asn Thr His Ser
      115             120             125

Thr Phe Leu Ser Asn Phe Asn Ile Gly Val Ile Lys Asn Thr Ile Tyr
      130             135             140

Glu Asp Ile Leu Arg Leu Lys Asn Val Asn Thr Ile Phe Leu Ala Asp
      145             150             155             160

Asn Ser Gln Glu Leu Val Leu Ala Leu Lys Asn Asp Lys Val Asp Tyr
      165             170             175

Ile Tyr Gly Asp Cys Lys Thr Leu His Tyr Ile Ala Asn Asn Phe Leu
      180             185             190

Ser Glu Asp Leu Val Ile Phe Thr Gly Asp Val Phe Tyr Ser Ile Lys
      195             200             205

```



Asn Arg Val Ala Ile Ser Arg Asn Ala Pro Glu Ile Val Lys Asn Leu  
 210 215 220  
 Asn Leu Asp Leu Phe Ser Tyr Leu Met Lys Met Pro Glu Glu Leu Val  
 225 230 235 240  
 Phe Ser Phe Leu Asp Ser Asn Ala Lys Gly Ser Phe Val Asp Val Gly  
 245 250 255  
 Leu Tyr Asn Asp Tyr Pro Pro Leu Ser Phe Ile Asn Ser Gln Gly Lys  
 260 265 270  
 Leu Ser Gly Ile Leu Val Asp Leu Trp Asn Leu Leu Ser Arg Gln His  
 275 280 285  
 Ile Phe Lys Pro Ile Phe Lys Gly Phe Ser Lys Glu Asp Ile Lys Lys  
 290 295 300  
 Ser Leu Asp Gly Lys Ser Val Gly Ile Phe Gly Gly Ile Ile Ser Asn  
 305 310 315 320  
 Asp Ser Val Leu Glu Asn Val Asn Tyr Val Val Ser Lys Pro Ile Tyr  
 325 330 335  
 Pro Leu Asn Phe Lys Phe Tyr Ser Lys Asp Leu Ser Asn Asp Ala Gly  
 340 345 350  
 Pro Ile Asn Ser Gln Phe Ile Asp Phe Asn Phe Asn Asn Ile Gln Leu  
 355 360 365  
 Asn Lys Asn Lys Asp Ile Val Asn Asn Phe Ile Asp Ile Val Asn Asn  
 370 375 380  
 Ser Tyr Gly Phe Ile Glu Asn Ser Ile Thr Thr Lys Tyr Leu Leu Lys  
 385 390 395 400  
 Leu Asn Gly Tyr Asn Gly Arg Leu Lys Ser Tyr Asp Ser Ile Phe Asn  
 405 410 415  
 Lys Asn Arg Phe Leu Val Leu Ala Ile Asp Asn Arg Ile Tyr Lys Val  
 420 425 430  
 Ile Lys Tyr Ile Leu Asn Ser Ile Phe Asp Asp Ile Ser Phe Glu Ser  
 435 440 445  
 Leu Leu Gln Ile Asp Lys Asn Trp Leu Asp Lys Glu Glu Ile Asn Ser  
 450 455 460  
 Ser Arg Ile Asn Ser Tyr Lys Ile Met Asn Lys Val Lys Phe Asn Ile  
 465 470 475 480  
 Glu Glu Lys Ile Trp Leu Ser Lys Asn Asn Lys Leu Asn Leu Ala Val  
 485 490 495  
 Lys Asn Trp Tyr Pro Ile Asp Tyr Val Glu Ala Asn Asn Tyr Lys Gly  
 500 505 510  
 Ile Asn Gln Phe Leu Leu Asp Lys Ile Arg Met Phe Ser Gly Leu Arg

515					520					525					
Phe	Asn	Ile	Ile	Lys	Val	His	Ser	Ser	Leu	Asp	Leu	Lys	Lys	Leu	Ile
530						535					540				
Lys	Ser	Gly	Lys	Ile	Asp	Met	Leu	Asn	Thr	Asn	Ala	Thr	Asp	Ser	Asn
545					550					555					560
Leu	Asp	Asn	Val	Phe	Asn	Ile	Lys	Leu	Asn	Ser	Arg	Ile	Pro	Leu	Tyr
				565					570					575	
Ile	Phe	Ser	Asn	Lys	Lys	Arg	Val	Leu	Pro	Ser	Arg	Ser	Leu	Glu	Lys
			580					585					590		
Phe	Ala	Ile	Leu	Asp	Phe	Leu	Tyr	Ser	Lys	Asn	Leu	Ala	Ser	Asn	Ile
		595					600					605			
Lys	Ser	Lys	Leu	Ile	Leu	Val	Ser	Ser	Phe	Asn	Glu	Ala	Leu	Leu	Leu
		610				615					620				
Leu	Tyr	Lys	Gly	Lys	Val	Asp	Gly	Ile	Ile	Ser	Asp	Glu	Tyr	Thr	Ala
625					630					635					640
Ala	Ala	Val	Phe	Glu	Glu	Leu	Asn	Ile	Asp	Asp	Val	Glu	Lys	Ile	Pro
				645					650					655	
Thr	Phe	Arg	Asp	Leu	Ala	Phe	Asp	Leu	Ser	Leu	Ala	Ile	Tyr	Asn	Gln
			660					665					670		
Asp	Tyr	Ile	Leu	Lys	Glu	Ile	Ile	Gln	Lys	Val	Val	Met	Arg	Ser	Asn
		675					680					685			
Val	Asp	Ser	Gln	Met	Tyr	Leu	Asn	Asp	Trp	Lys	Phe	Asp	Ile	Tyr	Tyr
		690				695					700				
Lys	Ser	Arg	Ser	Ile	Arg	Phe	Lys	Asn	Phe	Lys	Phe	Leu	Val	Ile	Thr
705					710					715					720
Phe	Ile	Ile	Phe	Tyr	Phe	Thr	Phe	Leu	Gly	Phe	Val	Ile	Ile	Phe	Met
				725					730					735	
Phe	Arg	Leu	Ser	Phe	Glu	Gln	Lys	Arg	Arg	Tyr	Ser	Phe	Val	Met	Asn
			740					745					750		
Glu	Lys	Lys	Ile	Ala	Glu	Ala	Ala	Asn	Ala	Ala	Lys	Thr	Ile	Phe	Ile
		755					760					765			
Ala	Asn	Val	Ser	His	Asp	Ile	Arg	Thr	Pro	Ile	Asn	Gly	Ile	Met	Ala
		770				775					780				
Ala	Thr	Glu	Leu	Leu	Asp	Thr	Thr	Ile	Leu	Thr	Asp	Val	Gln	Lys	Asp
785					790					795					800
Tyr	Val	Arg	Met	Ile	Asn	Tyr	Ser	Ser	Asp	Ser	Leu	Leu	Ser	Leu	Ile
				805					810					815	
Asp	Asp	Ile	Leu	Tyr	Leu	Ser	Lys	Ile	Asp	Val	Asn	Glu	Leu	Tyr	Val
			820				825						830		

Glu Ser Gln Glu Ile Asp Leu Glu Ser Glu Met Glu Met Val Leu Lys  
 835 840 845  
 Ala Phe Gln Ser Gln Cys Ala Lys Lys Asn Ile Asp Leu Phe Ser Tyr  
 850 855 860  
 Ser Lys Ser Ile Phe Asn Asn Tyr Ile Lys Gly Asp Ile Val Lys Ile  
 865 870 875 880  
 Lys Gln Val Leu Ile Asn Leu Ile Gly Asn Ala Phe Lys Phe Thr Asp  
 885 890 895  
 Asp Gly Val Ile Val Leu Asn Tyr Glu Glu Val Cys Arg Thr Arg Thr  
 900 905 910  
 Asp Gly Asn Arg Val Leu Val Thr Val Glu Phe Lys Val Ile Asp Thr  
 915 920 925  
 Gly Lys Gly Ile Glu Lys Glu Asn Phe Ser Lys Ile Phe Glu Ile Phe  
 930 935 940  
 Lys Gln Glu Asp Asp Ser Ser Ser Arg Val His Glu Gly Ala Gly Leu  
 945 950 955 960  
 Gly Leu Ser Ile Ser Arg Glu Leu Ile Arg Leu Met Gly Gly Leu Gly  
 965 970 975  
 Ile Ala Val Asp Ser Lys Val Gly Glu Gly Thr Thr Phe Ser Phe Met  
 980 985 990  
 Leu Pro Phe Leu Leu Gly Ser Glu Leu Lys Ser Lys Lys Leu Ser Ile  
 995 1000 1005  
 Asn Arg Phe Gln Ser Val Asn Gly Asp Asn Lys Val Leu Asn Val Leu  
 1010 1015 1020  
 Leu Ser Gln Lys Ser Ile Lys Ile Phe Glu His Cys Ser Ile Leu Leu  
 025 1030 1035 1040  
 Gly Cys Ser Ser Asn Val Arg Tyr Val Ala Ser Phe Glu Asp Ala Tyr  
 1045 1050 1055  
 Lys Val Phe Lys Lys Tyr Pro Ser Tyr Asn Phe Val Tyr Ile Asn Val  
 1060 1065 1070  
 Asn Asn Asp Asn Ile Gln Glu Gly Ile Arg Leu Ala Asn Asn Ile Glu  
 1075 1080 1085  
 Arg Leu Asn Ser Asp Val Gln Ile Ile Phe Leu Phe Tyr Tyr Leu Asp  
 1090 1095 1100  
 Asn Lys Ala Leu Lys Asn Leu Lys Tyr Gly Tyr Val Lys Lys Pro Leu  
 105 1110 1115 1120  
 Met Gly Leu Gly Ile Cys Ser Ile Leu Tyr Lys Lys Glu Phe Asn Pro  
 1125 1130 1135

Glu Met Asp Phe Glu Asp Leu Val Pro Ile Asp Ser Ala Leu Arg Ile  
 1140 1145 1150

Lys Glu Pro Ile Asn Val Leu Ile Ala Glu Asp Asn Gln Val Asn Gln  
 1155 1160 1165

Lys Val Leu Lys Asp Ile Leu Val Val Ile Gly Ile Asn Glu Asn Phe  
 1170 1175 1180

Ile Asp Val Val Asp Asp Gly Val Lys Ala Leu Lys Ser Leu Lys Asp  
 1185 1190 1195 1200

Lys Lys Tyr Thr Ile Ser Phe Ile Asp Ile Arg Met Pro Arg Tyr Asp  
 1205 1210 1215

Gly Phe Ser Val Ala Lys Glu Ile Arg Lys Phe Glu Lys Ala Lys Asn  
 1220 1225 1230

Leu Lys Pro Cys Val Leu Val Ala Val Thr Ala His Ala Leu Gln Glu  
 1235 1240 1245

Tyr Lys Asp Lys Cys Leu Ala Ser Gly Met Asn Asp Tyr Ile Ser Lys  
 1250 1255 1260

Pro Ile His Ile Ser Ser Ile Lys Thr Ile Leu Lys Lys Tyr Leu Gln  
 1265 1270 1275 1280

Phe Glu Val Asp Asp Ile Gly Glu Asn Glu Asn Leu Asn Gln Leu Val  
 1285 1290 1295

Lys Phe Pro Asn Leu Asp Val Asn Arg Ala Leu Lys Glu Leu Asn Leu  
 1300 1305 1310

Ser Tyr Val Ser Tyr Ser Glu Leu Cys Arg Gly Leu Val Asp Phe Ile  
 1315 1320 1325

Ser Ile Asn Ile Ile Asp Leu Glu Lys Ala Phe Asp Glu Glu Asp Leu  
 1330 1335 1340

Ser Leu Ile Lys Asp Ile Ser His Ser Ile Ser Gly Ala Leu Ser Asn  
 1345 1350 1355 1360

Met Arg Ser Glu Leu Tyr Lys Asp Phe Gln Lys Ile Glu Thr Ser Lys  
 1365 1370 1375

Asp Ser Ile Ser Glu Leu Lys Lys Met Tyr Ser Phe Val Lys Asp Asp  
 1380 1385 1390

Leu Phe Gln Leu Ile Ser Asp Ile Lys Glu Asn Ile Leu Phe Glu Ser  
 1395 1400 1405

Glu Ile Val Ser Glu Asn Lys Leu Tyr Phe Lys Asn Asn Asp Gln Phe  
 1410 1415 1420

Leu Asn Leu Leu Asn Lys Leu Leu Ile Gly Ile Lys Thr Arg Lys Pro  
 1425 1430 1435 1440

Arg Glu Tyr Lys Glu Ile Leu Glu Ser Ile Asn Lys Tyr Val Leu Asp

1445 1450 1455

Asp Asn Ile Gln Val Leu Phe Ser Asp Leu Arg Arg Asn Leu Arg Leu  
1460 1465 1470

Tyr Arg Phe Ala Glu Ser Ser Lys Ile Leu Glu Glu Ile Ile Glu Met  
1475 1480 1485

Leu Asn Asn Lys Arg Tyr  
1490

<210> 413  
<211> 1477  
<212> PRT  
<213> Homo sapiens

<400> 413

Cys Phe Val Asn Val Asn Leu Phe Ser Lys Asp Ile Phe Lys Phe Lys  
1 5 10 15

Leu Val Asp Gln Phe Phe Pro Phe Tyr Tyr Lys Asn Asn Lys Gly Glu  
20 25 30

Tyr Glu Gly Leu Ile Phe Ser Ile Leu Asp Lys Trp Ala Lys Asp Asn  
35 40 45

Asn Ala Asp Ile Met Val Glu His Ile Asp Asn Leu Asn Glu Ser Glu  
50 55 60

Ile Glu Asp Glu Ala Ile Tyr Leu Gly Leu Thr Tyr Asn Val Lys Leu  
65 70 75 80

Asn Asp Phe Phe Tyr Phe Lys Ser Glu Leu Ala Arg Ser Ile Ser Ile  
85 90 95

Leu Phe Phe Lys Asn Ser Asn Lys Lys Tyr Lys Asn Thr His Ser Thr  
100 105 110

Phe Leu Ser Asn Phe Asn Ile Gly Val Ile Lys Asn Thr Ile Tyr Glu  
115 120 125

Asp Ile Leu Arg Leu Lys Asn Val Asn Thr Ile Phe Leu Ala Asp Asn  
130 135 140

Ser Gln Glu Leu Val Leu Ala Leu Lys Asn Asp Lys Val Asp Tyr Ile  
145 150 155 160

Tyr Gly Asp Cys Lys Thr Leu His Tyr Ile Ala Asn Asn Phe Leu Ser  
165 170 175

Glu Asp Leu Val Ile Phe Thr Gly Asp Val Phe Tyr Ser Ile Lys Asn  
180 185 190

Arg Val Ala Ile Ser Arg Asn Ala Pro Glu Ile Val Lys Asn Leu Asn  
195 200 205

Leu Asp Leu Phe Ser Tyr Leu Met Lys Met Pro Glu Glu Leu Val Phe  
210 215 220

Ser Phe Leu Asp Ser Asn Ala Lys Gly Ser Phe Val Asp Val Gly Leu  
 225 230 235 240  
 Tyr Asn Asp Tyr Pro Pro Leu Ser Phe Ile Asn Ser Gln Gly Lys Leu  
 245 250 255  
 Ser Gly Ile Leu Val Asp Leu Trp Asn Leu Leu Ser Arg Gln His Ile  
 260 265 270  
 Phe Lys Pro Ile Phe Lys Gly Phe Ser Lys Glu Asp Ile Lys Lys Ser  
 275 280 285  
 Leu Asp Gly Lys Ser Val Gly Ile Phe Gly Gly Ile Ile Ser Asn Asp  
 290 295 300  
 Ser Val Leu Glu Asn Val Asn Tyr Val Val Ser Lys Pro Ile Tyr Pro  
 305 310 315 320  
 Leu Asn Phe Lys Phe Tyr Ser Lys Asp Leu Ser Asn Asp Ala Gly Pro  
 325 330 335  
 Ile Asn Ser Gln Phe Ile Asp Phe Asn Phe Asn Asn Ile Gln Leu Asn  
 340 345 350  
 Lys Asn Lys Asp Ile Val Asn Asn Phe Ile Asp Ile Val Asn Asn Ser  
 355 360 365  
 Tyr Gly Phe Ile Glu Asn Ser Ile Thr Thr Lys Tyr Leu Leu Lys Leu  
 370 375 380  
 Asn Gly Tyr Asn Gly Arg Leu Lys Ser Tyr Asp Ser Ile Phe Asn Lys  
 385 390 395 400  
 Asn Arg Phe Leu Val Leu Ala Ile Asp Asn Arg Ile Tyr Lys Val Ile  
 405 410 415  
 Lys Tyr Ile Leu Asn Ser Ile Phe Asp Asp Ile Ser Phe Glu Ser Leu  
 420 425 430  
 Leu Gln Ile Asp Lys Asn Trp Leu Asp Lys Glu Glu Ile Asn Ser Ser  
 435 440 445  
 Arg Ile Asn Ser Tyr Lys Ile Met Asn Lys Val Lys Phe Asn Ile Glu  
 450 455 460  
 Glu Lys Ile Trp Leu Ser Lys Asn Asn Lys Leu Asn Leu Ala Val Lys  
 465 470 475 480  
 Asn Trp Tyr Pro Ile Asp Tyr Val Glu Ala Asn Asn Tyr Lys Gly Ile  
 485 490 495  
 Asn Gln Phe Leu Leu Asp Lys Ile Arg Met Phe Ser Gly Leu Arg Phe  
 500 505 510  
 Asn Ile Ile Lys Val His Ser Ser Leu Asp Leu Lys Lys Leu Ile Lys  
 515 520 525

Ser Gly Lys Ile Asp Met Leu Asn Thr Asn Ala Thr Asp Ser Asn Leu  
 530 535 540  
 Asp Asn Val Phe Asn Ile Lys Leu Asn Ser Arg Ile Pro Leu Tyr Ile  
 545 550 555 560  
 Phe Ser Asn Lys Lys Arg Val Leu Pro Ser Arg Ser Leu Glu Lys Phe  
 565 570 575  
 Ala Ile Leu Asp Phe Leu Tyr Ser Lys Asn Leu Ala Ser Asn Ile Lys  
 580 585 590  
 Ser Lys Leu Ile Leu Val Ser Ser Phe Asn Glu Ala Leu Leu Leu Leu  
 595 600 605  
 Tyr Lys Gly Lys Val Asp Gly Ile Ile Ser Asp Glu Tyr Thr Ala Ala  
 610 615 620  
 Ala Val Phe Glu Glu Leu Asn Ile Asp Asp Val Glu Lys Ile Pro Thr  
 625 630 635 640  
 Phe Arg Asp Leu Ala Phe Asp Leu Ser Leu Ala Ile Tyr Asn Gln Asp  
 645 650 655  
 Tyr Ile Leu Lys Glu Ile Ile Gln Lys Val Val Met Arg Ser Asn Val  
 660 665 670  
 Asp Ser Gln Met Tyr Leu Asn Asp Trp Lys Phe Asp Ile Tyr Tyr Lys  
 675 680 685  
 Ser Arg Ser Ile Arg Phe Lys Asn Phe Lys Phe Leu Val Ile Thr Phe  
 690 695 700  
 Ile Ile Phe Tyr Phe Thr Phe Leu Gly Phe Val Ile Ile Phe Met Phe  
 705 710 715 720  
 Arg Leu Ser Phe Glu Gln Lys Arg Arg Tyr Ser Phe Val Met Asn Glu  
 725 730 735  
 Lys Lys Ile Ala Glu Ala Ala Asn Ala Ala Lys Thr Ile Phe Ile Ala  
 740 745 750  
 Asn Val Ser His Asp Ile Arg Thr Pro Ile Asn Gly Ile Met Ala Ala  
 755 760 765  
 Thr Glu Leu Leu Asp Thr Thr Ile Leu Thr Asp Val Gln Lys Asp Tyr  
 770 775 780  
 Val Arg Met Ile Asn Tyr Ser Ser Asp Ser Leu Leu Ser Leu Ile Asp  
 785 790 795 800  
 Asp Ile Leu Tyr Leu Ser Lys Ile Asp Val Asn Glu Leu Tyr Val Glu  
 805 810 815  
 Ser Gln Glu Ile Asp Leu Glu Ser Glu Met Glu Met Val Leu Lys Ala  
 820 825 830  
 Phe Gln Ser Gln Cys Ala Lys Lys Asn Ile Asp Leu Phe Ser Tyr Ser

835	840	845
Lys Ser Ile Phe Asn Asn Tyr Ile Lys Gly Asp Ile Val Lys Ile Lys		
850	855	860
Gln Val Leu Ile Asn Leu Ile Gly Asn Ala Phe Lys Phe Thr Asp Asp		
865	870	875 880
Gly Val Ile Val Leu Asn Tyr Glu Glu Val Cys Arg Thr Arg Thr Asp		
	885	890 895
Gly Asn Arg Val Leu Val Thr Val Glu Phe Lys Val Ile Asp Thr Gly		
	900	905 910
Lys Gly Ile Glu Lys Glu Asn Phe Ser Lys Ile Phe Glu Ile Phe Lys		
	915	920 925
Gln Glu Asp Asp Ser Ser Ser Arg Val His Glu Gly Ala Gly Leu Gly		
	930	935 940
Leu Ser Ile Ser Arg Glu Leu Ile Arg Leu Met Gly Gly Leu Gly Ile		
945	950	955 960
Ala Val Asp Ser Lys Val Gly Glu Gly Thr Thr Phe Ser Phe Met Leu		
	965	970 975
Pro Phe Leu Leu Gly Ser Glu Leu Lys Ser Lys Lys Leu Ser Ile Asn		
	980	985 990
Arg Phe Gln Ser Val Asn Gly Asp Asn Lys Val Leu Asn Val Leu Leu		
	995	1000 1005
Ser Gln Lys Ser Ile Lys Ile Phe Glu His Cys Ser Ile Leu Leu Gly		
1010	1015	1020
Cys Ser Ser Asn Val Arg Tyr Val Ala Ser Phe Glu Asp Ala Tyr Lys		
025	1030	1035 1040
Val Phe Lys Lys Tyr Pro Ser Tyr Asn Phe Val Tyr Ile Asn Val Asn		
	1045	1050 1055
Asn Asp Asn Ile Gln Glu Gly Ile Arg Leu Ala Asn Asn Ile Glu Arg		
	1060	1065 1070
Leu Asn Ser Asp Val Gln Ile Ile Phe Leu Phe Tyr Tyr Leu Asp Asn		
	1075	1080 1085
Lys Ala Leu Lys Asn Leu Lys Tyr Gly Tyr Val Lys Lys Pro Leu Met		
1090	1095	1100
Gly Leu Gly Ile Cys Ser Ile Leu Tyr Lys Lys Glu Phe Asn Pro Glu		
105	1110	1115 1120
Met Asp Phe Glu Asp Leu Val Pro Ile Asp Ser Ala Leu Arg Ile Lys		
	1125	1130 1135
Glu Pro Ile Asn Val Leu Ile Ala Glu Asp Asn Gln Val Asn Gln Lys		
	1140	1145 1150



Val Leu Lys Asp Ile Leu Val Val Ile Gly Ile Asn Glu Asn Phe Ile  
 1155 1160 1165  
 Asp Val Val Asp Asp Gly Val Lys Ala Leu Lys Ser Leu Lys Asp Lys  
 1170 1175 1180  
 Lys Tyr Thr Ile Ser Phe Ile Asp Ile Arg Met Pro Arg Tyr Asp Gly  
 1185 1190 1195 1200  
 Phe Ser Val Ala Lys Glu Ile Arg Lys Phe Glu Lys Ala Lys Asn Leu  
 1205 1210 1215  
 Lys Pro Cys Val Leu Val Ala Val Thr Ala His Ala Leu Gln Glu Tyr  
 1220 1225 1230  
 Lys Asp Lys Cys Leu Ala Ser Gly Met Asn Asp Tyr Ile Ser Lys Pro  
 1235 1240 1245  
 Ile His Ile Ser Ser Ile Lys Thr Ile Leu Lys Lys Tyr Leu Gln Phe  
 1250 1255 1260  
 Glu Val Asp Asp Ile Gly Glu Asn Glu Asn Leu Asn Gln Leu Val Lys  
 1265 1270 1275 1280  
 Phe Pro Asn Leu Asp Val Asn Arg Ala Leu Lys Glu Leu Asn Leu Ser  
 1285 1290 1295  
 Tyr Val Ser Tyr Ser Glu Leu Cys Arg Gly Leu Val Asp Phe Ile Ser  
 1300 1305 1310  
 Ile Asn Ile Ile Asp Leu Glu Lys Ala Phe Asp Glu Glu Asp Leu Ser  
 1315 1320 1325  
 Leu Ile Lys Asp Ile Ser His Ser Ile Ser Gly Ala Leu Ser Asn Met  
 1330 1335 1340  
 Arg Ser Glu Leu Tyr Lys Asp Phe Gln Lys Ile Glu Thr Ser Lys Asp  
 1345 1350 1355 1360  
 Ser Ile Ser Glu Leu Lys Lys Met Tyr Ser Phe Val Lys Asp Asp Leu  
 1365 1370 1375  
 Phe Gln Leu Ile Ser Asp Ile Lys Glu Asn Ile Leu Phe Glu Ser Glu  
 1380 1385 1390  
 Ile Val Ser Glu Asn Lys Leu Tyr Phe Lys Asn Asn Asp Gln Phe Leu  
 1395 1400 1405  
 Asn Leu Leu Asn Lys Leu Leu Ile Gly Ile Lys Thr Arg Lys Pro Arg  
 1410 1415 1420  
 Glu Tyr Lys Glu Ile Leu Glu Ser Ile Asn Lys Tyr Val Leu Asp Asp  
 1425 1430 1435 1440  
 Asn Ile Gln Val Leu Phe Ser Asp Leu Arg Arg Asn Leu Arg Leu Tyr  
 1445 1450 1455

Arg Phe Ala Glu Ser Ser Lys Ile Leu Glu Glu Ile Ile Glu Met Leu  
 1460 1465 1470

Asn Asn Lys Arg Tyr  
 1475

<210> 414  
 <211> 4485  
 <212> DNA  
 <213> Homo sapiens

<400> 414  
 atgaaaaaag caaacttttt aagtactaat tttttaattt tacttttggg ttgctttgtc 60  
 aacgtcaatt tatttttctaa ggatattttc aagtttaagc ttgtagatca attttttcct 120  
 ttttactaca agaataataa aggagaatat gaaggactta ttttttctat tttagataaa 180  
 tgggcaaaaag ataataatgc tgatattatg gttgagcata ttgataattt aaatgaaagt 240  
 gaaattggaag acgaagcaat atatttttaga ttaacttata atgtaaaatt aaatgatttt 300  
 ttttatttta aaagttagct tgctaggagt atttcaattt ttttttttaa aaactctaata 360  
 aaaaaatata aaaataccca ttcaacattt ttatccaatt ttaatatagg agttattaaa 420  
 aatacaatat atgaagatat cttaagggtta aaaaacgtta acaccatttt tttggctgat 480  
 aattctcaag agtttagtatt ggccttaaaa aacgataaag ttgattatat atatggtgat 540  
 tgcaagactt tacattatat tgcaaaataac tttttaagtg aagatcttgt gattttttacc 600  
 ggggatgttt tttatagtat caaaaataga gtggctatta gtagaaatgc tcctgagata 660  
 gtaagaatt tgaatttaga tttgttttca ttttaaatga aaatgcctga ggaacttgtt 720  
 ttttcttttt tagatagcaa tgctaaggga agttttgttg atgttggttt atataatgat 780  
 tatcctcctt taagttttat taattcacag ggaaaattgt ctggcatttt agtggatttg 840  
 tggaatcttc tctcaagaca acatatcttt aaacctattt ttaagggatt ttccaaagag 900  
 gatattaaga aatcattaga tggaaaatga gtaggtattt ttggaggaat tattagcaat 960  
 gatagtgtt tggaaaatgt taattatgta gtaagtaagc caatatatcc tcttaatttt 1020  
 aaattttatt ctaaagacct aagcaatgat gctggtccaa taaattctca gtttattgat 1080  
 ttttaatttt ataatttca attaaataag aataaagata ttgttaataa ctttatagat 1140  
 attgttaata attcatatgg gtttatagaa aattcaataa caacaaaata tttgttaaaa 1200  
 ttaaattgat ataacggtag attaaaatct tacgattcga tttttaataa aaataggttt 1260  
 tttagtatag ccattgataa taggatttat aaggttatta aatatattct caattctata 1320  
 tttgatgata tttcatttga atctttgctt caaatagata aaaattgggt ggataaagaa 1380  
 gagattaata gttctagaat aaatagttat aaaattatga ataagggtta atttaataata 1440  
 gaagaaaaaa tttggttatc aaaaaataat aaattaaatc ttgctgttaa aaattggtat 1500  
 ccaatagatt atgttgaggc aaataattat aaaggaataa atcaattttt gcttgataag 1560  
 attagaatgt tttcaggttt gagatttaac ataattaaag tacacagcag ttttagatctt 1620  
 aaaaaattaa tcaaatctgg aaaaatcgat atgtcaataa ctaatgcaac cgattcaaat 1680  
 ttagataatg ttttcaacat aaaattaaat tctcgaattc cactttatat tttttcaaat 1740  
 aagaaaaggg tgcttccatc tagatcttta gaaaagtttg ctatacttga ttttttatat 1800  
 agtaaaaaat tggcttctaa tattaatatca aagcttattc tggtaagcag ttttaatgaa 1860  
 gcgttgcttc ttctttataa gggaaaggta gatgggatta tttagcgatga gtatacagct 1920  
 gctgctgttt ttgaggaatt aaatattgat gatgttgaaa aaattcctac ttttagagat 1980  
 ttggcttttg atttgagtct tgctatttat aatcaagatt atatcttgaa agaaattatt 2040  
 caaaaagttg ttatgcgttc aaatgttgac agtcagatgt atttaaatga ttggaaattt 2100  
 gatattttat ataaatccag aagtatcagg tttaaaaatt tcaaattttt agtgataaca 2160  
 ttcattatat tttattttac ttttttagga ttgttaatta ttttatgtt cagattatca 2220  
 tttgagcaga aaagaagata ttcttttggt atgaatgaaa aaaagattgc ggaagccgct 2280  
 aatgctgcta aaaccatttt tatagccaat gtcagtcatg atattcgtac ccctattaac 2340  
 ggaataatgg cggctactga gcttttggt acaactattc ttacagatgt tcaaaaagat 2400  
 tatgttagga tgataaatat ttcatctgat tctttgcttt ctttaattga tgatatattg 2460  
 ttttgttcta aaatagatgt caatgaatta tatgttgaga gtcaagagat tgatttagag 2520  
 agtgaaatgg aaatggtttt aaaagctttt caatctcaat gtgcaaagaa aaatattgat 2580  
 ttattctctt attctaaatc tttttttaat aattatataa aggggtgatat tgtaaaaatt 2640  
 aaacaagttt taattaattt aataggaaat gcttttaagt ttacagatga tgggtgttatt 2700  
 gttttaaatt atgaagaagt atgtagaaca agaactgatg gtaatagggt tttgggttaca 2760

```

gttgaattta aggtaataga tacaggcaaa gggattgaaa aagaaaattt ttctaagata 2820
tttgaaatat ttaaacaaga ggatgattct tcttcaaggg ttcataaggg tgcaggattg 2880
ggattgtcaa tatctagaga gcttataaga ctaatgggtg gtcttgggat tgctgttgat 2940
agcaagggtg gagagggtac aactttttca tttatgttgc cttttttatt gggtagtgag 3000
cttaaaagta aaaaattgtc aatcaataga tttcaatcag taaatgggtg caataaagta 3060
ttaaattgtc ttttaagtca aaaatctatt aaaatttttg agcactgttc gattttattg 3120
ggatgctctt ctaatgtgcg ctatgtagcg tcttttgagg atgcttataa agtcttcaag 3180
aaataccctt cttataattt tgtttatata aatgtaaata acgataatat tcaagagggt 3240
attcgacttg ccaataatat tgaagacta aattctgatg taaaaattat ttttttattt 3300
tattatttag ataataaagc tctaaaaaat ttaaaatatg gttatgttaa aaagccttta 3360
atggggcttg gtatatgctc tattctttat aaaaaagagt ttaaccaga aatggatttt 3420
gaggatttgg ttccaataga tagtgcttta aggataaaaag agccattaa tgttttaata 3480
gctgaagata atcaggtaaa tcaaaaagtg ttgaaagata ttcttgttgt tataggcatt 3540
aatgaaaatt ttattgatgt tgtagatgat ggagtaaagg ctttaaaatc tttaaaagat 3600
aaaaaatata ctatctcttt tattgatata cgaatgccaa gatatgatgg attttcgggtg 3660
gctaaggaaa ttagaaaatt tgaagggca aagaatttaa agccttgtgt tttgggtgct 3720
gtaacagcgc atgctttgca agagtataaa gacaagtgtc ttgcaagtgg tatgaatgat 3780
tatatctcaa aaccaataca cataagttca attaaaaacta tattaaaaaa atacttacag 3840
tttgaagtgt atgatattgg ggagaatgaa aatttgaatc aacttgttaa gtttcctaat 3900
ttagatgtta atagggcttt aaaagaatta aatctttcat atgtatcata ttctgaatta 3960
tgtagagggc ttgttgattt tatctctatt aatattattg atttggaaaa agcttttgat 4020
gaggaagatt tgtctttaat taaggatata tctcattcaa tatctggagc tcttttctaat 4080
atgcgtagcg aattgtataa agattttcaa aaaattgaaa caagttaaaga ttcaatttct 4140
gagttgaaaa aaatgtattc ttttgtaaaa gatgatttat ttcaactaat aagcgacata 4200
aaggaaaaata ttttgtttga gtctgagatt gttagtgaga acaagctata ttttaaaaat 4260
aatgatcaat ttttaaacct tctcaacaaa cttttaattg gtattaaagac tagaaagcca 4320
agagaataca aagaaattct tgagagcatt aataaatatg ttttagacga taatattcag 4380
gtattattta gtgatcttcg cagaaattta agattatata gatttgctga gagctctaag 4440
attcttgaag agattattga aatgcttaat aataagagat attat 4485

```

&lt;210&gt; 415

&lt;211&gt; 4434

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 415

```

tgctttgtca acgtcaattt attttctaag gatattttca agtttaagct tgtagatcaa 60
ttttttcctt ttactacaa gaataataaa ggagaatatg aaggacttat tttttctatt 120
ttagataaat gggcaaaaaga taataatgct gatattatgg ttgagcatat tgataattta 180
aatgaaagtg aaattgaaga cgaagcaata tatttaggat taacttataa tgtaaaatta 240
aatgattttt tttattttta aagttagctt gctaggagta tttcaatttt atttttttaa 300
aactctaata aaaaatataa aaatacccat tcaacatttt tatccaattt taatatagga 360
gttattaaaa atacaatata tgaagatata ttaagggttaa aaaacgttaa caccattttt 420
ttggctgata attctcaaga gttagtattg gccttaaaaa acgataaaagt tgattatata 480
tatggtgatg gcaagacttt acattatatt gcaaataact ttttaagtga agatcttgtg 540
atttttaccg gggatgtttt ttatagtatc aaaaatagag tggctattag tagaaatgct 600
cctgagatag taaagaattt gaatttagat ttgttttcat atttaatgaa aatgcctgag 660
gaacttgttt tttctttttt agatagcaat gctaaggga gttttgttga tgttggttta 720
tataatgatt atcctccttt aagttttatt aattcacagg gaaaattgtc tggcatttta 780
gtggatttgt ggaatcttct ctcaagacaa catatcttta aacctatttt taagggattt 840
tccaaagagg atattaagaa atcatttagat ggaaaatcag taggtatttt tggaggaatt 900
attagcaatg atagtgtgtt ggaaaatggt aattatgtag taagtaagcc aatatatcct 960
cttaatttta aattttattc taaagacctt agcaatgatg ctgggtccaat aaattctcag 1020
tttattgatt ttaattttta taatattcaa ttaaataaga ataaagatat tgttaataac 1080
tttatagata ttgttaataa tcatatggg tttatagaaa attcaataac aacaaaatat 1140
ttgttaaaat taaatggata taacggtaga ttaaaatctt acgattcgat ttttaataaa 1200
aatagggttt tagtattagc cattgataat aggatttata aggttattaa atatattctc 1260
aattctatat ttgatgatat ttcatttgaa tctttgcttc aaatagataa aaattgggtg 1320

```

gataaagaag	agattaatag	ttctagaata	aatagttata	aaattatgaa	taagggttaa	1380
tttaatatag	aagaaaaaat	ttgggttatca	aaaaataata	aattaaatct	tgctgttaa	1440
aattgggtatc	caatagatta	tggttagggca	aataattata	aaggaataaa	tcaatttttg	1500
cttgataaga	ttagaatggt	ttcaggtttg	agatttaaca	taattaaagt	acacagcagt	1560
ttagatctta	aaaaattaat	caaactctgga	aaaatcgata	tgctaaatac	taatgcaacc	1620
gattcaaat	tagataatgt	tttcaacata	aaattaaatt	ctcgaattcc	actttatatt	1680
ttttcaata	agaaaagggt	gcttccatct	agatctttag	aaaagtttgc	tatacttgat	1740
tttttatata	gtaaaaat	ggcttctaat	attaaatcaa	agcttattct	ggtaagcagt	1800
tttaatgaag	cggtgcttct	tctttataag	ggaaaggtag	atgggattat	tagcgatgag	1860
tatacagctg	ctgctgtttt	tgaggaatta	aatattgatg	atgttgaaaa	aattcctact	1920
tttagagatt	tggtctttga	tttgagtctt	gctatttata	atcaagatta	tatcttgaaa	1980
gaaattatc	aaaaagttgt	tatgcgttca	aatgttgaca	gtcagatgta	tttaaatgat	2040
tggaatattg	atatttatta	taaatccaga	agtatcaggt	ttaaaaat	caaattttta	2100
gtgataacat	tcattatatt	ttattttact	tttttaggat	ttgtaattat	atattatgttc	2160
agattatcat	ttgagcagaa	agaagatat	tcttttgtga	tgaatgaaaa	aaagattgctg	2220
gaagccgcta	atgctgctaa	aaccattttt	atagccaatg	tcagtcatga	tattcgtacc	2280
cctattaacg	gaataatggc	ggctactgag	cttttgata	caactattct	tacagatgtt	2340
caaaaagatt	atgttaggat	gataaattat	tcactgtatt	ctttgctttc	tttaattgat	2400
gatataattgt	atgtgtctaa	aatagatgtc	aatgaattat	atgttgagag	tcaagagatt	2460
gatttagaga	gtgaaatgga	aatgggtttt	aaagcttttc	aatctcaatg	tgcaaagaaa	2520
aatattgatt	tattctctta	ttctaaatct	atttttaata	attatataaa	gggtgatatt	2580
gtaaaaatta	aacaagtttt	aattaaat	ataggaaatg	cttttaagtt	tacagatgat	2640
gggtgttattg	ttttaaatta	tgaagaagta	tgtagaacaa	gaactgatgg	taatagggtt	2700
ttgggtacag	ttgaatttaa	ggtaatagat	acaggcaaa	ggattgaaaa	agaaaat	2760
tctaagatat	ttgaaatatt	taaacaagag	gatgattctt	cttcaagggt	tcatgaagg	2820
gcaggattgg	gattgtcaat	atctagagag	cttataagac	taatgggtgg	tcttggtatt	2880
gctgttgata	gcaagggtgg	agaggggtaca	actttttcat	ttatgttgcc	ctttttattg	2940
ggtagtgagc	ttaaaagtaa	aaaattgtca	atcaatagat	ttcaatcagt	aaatgggtgac	3000
aataaagtat	taaatgtgct	tttaagtcaa	aaatctatta	aaatttttga	gcactgttcg	3060
attttattg	gatgctcttc	taatgtgcgc	tatgtagcgt	cttttgagga	tgcttataaa	3120
gtcttcaaga	aatacccttc	ttataat	gtttatataa	atgtaaataa	cgataatatt	3180
caagagggtta	ttcgacttgc	caataatatt	gaaagactaa	attctgatgt	acaaattatt	3240
tttttatttt	attattttaga	taataaagct	ctaaaaaatt	taaaatatgg	ttatgttaa	3300
aagcctttaa	tggggcttgg	tatatgctct	attctttata	aaaaagagtt	taaccagaa	3360
atggattttg	aggatttgg	tccaatagat	agtgccttaa	ggataaaaga	gccattaat	3420
gttttaatag	ctgaagataa	tcaggtaaat	caaaaagtgt	tgaaagatat	tcttgttgtt	3480
ataggcatta	atgaaaat	tattgatgtt	gtagatgatg	gagtaaaggc	tttaaatct	3540
ttaaaagata	aaaaatatac	tatctctttt	attgatatac	gaatgccaa	atatgatgga	3600
ttttcggtgg	ctaaggaaat	tagaaaat	gaaaaggcaa	agaatttaa	gccttgtgtt	3660
ttgggtgctg	taacagcgca	tgctttgcaa	gagtataaag	acaagtgtct	tgcaagtgg	3720
atgaatgatt	atatctcaaa	accaatacac	ataagttcaa	ttaaaactat	attaaaaaaa	3780
tacttacagt	ttgaagttga	tgatatggg	gagaatgaaa	atttgaatca	acttggttaag	3840
tttctaat	tagatgttaa	tagggcttta	aaagaattaa	atctttcata	tgtatcatat	3900
tctgaattat	gtagagggt	tggtgatttt	atctctatta	atattattga	tttggaaaaa	3960
gcttttgatg	aggaagattt	gtctttaatt	aaggatatat	ctcattcaat	atctggagct	4020
ctttcttaata	tgctgagcga	attgtataaa	gatttttcaa	aaattgaaac	aagtaaagat	4080
tcaatttctg	agttgaaaaa	aatgtattct	tttgtaaaag	atgatttatt	tcaactaata	4140
agcgacataa	aggaaaatat	tttgtttgag	tctgagattg	ttagtgagaa	caagctatat	4200
tttaaaaaata	atgatcaatt	tttaaaccct	ctcaacaaac	ttttaattgg	tattaagact	4260
agaaagccaa	gagaatacaa	agaaattctt	gagagcatta	ataaatatgt	tttagacgat	4320
aatattcagg	tattatttag	tgatcttcgc	agaaatttaa	gattatatag	atgtgctgag	4380
agctctaaga	ttcttgaaga	gattattgaa	atgcttaata	ataagagata	ttag	4434

&lt;210&gt; 416

&lt;211&gt; 343

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 416

Met Asn Leu Leu Val Lys Ile Ala Lys Phe Ile Leu Ile Leu Phe Leu  
 1 5 10 15  
 Phe Thr Ser Cys Asn Gln Lys Gln Ser Glu Ile Gln Asn Leu Thr His  
 20 25 30  
 Leu Leu Lys Ser Ser Asn Lys Asn Arg Leu Asp Lys Phe Leu Ile Ile  
 35 40 45  
 Asp Arg Val Val Asn Ile Tyr Ile Ala Asn Lys Asn Tyr Glu Asp Ala  
 50 55 60  
 Leu Glu Ile Val Asn Asn Gly Ile Ile Asp Asp Glu Ser Arg Glu Tyr  
 65 70 75 80  
 Tyr Pro Leu Tyr Leu Tyr Leu Met Gly Asn Ile Tyr Asp Ser Met Gly  
 85 90 95  
 Glu Asp Phe Val Ala Phe Asn Ile Tyr Lys Arg Val Val Asp Asn Phe  
 100 105 110  
 Asp Asp Tyr Val Tyr Glu Asn His Ser Met Lys Thr Arg Val Ala Lys  
 115 120 125  
 Lys Ile Val Asn Leu Asn Ile Asp Ser Ile Asp Lys Ile Asn Tyr Tyr  
 130 135 140  
 Lys Phe Ile Leu Asn Met Gly Ile Asp Asn Leu Asn Asn Glu Glu Lys  
 145 150 155 160  
 Gly Asn Tyr Phe Tyr Asn Leu Ala Leu Ser Leu Glu Asp Val Gln Asp  
 165 170 175  
 Tyr Asp Glu Ser Tyr Phe Tyr Tyr Lys Lys Phe Leu Ser Ile Pro Arg  
 180 185 190  
 Ala His Leu Lys Ile Asp Ser Arg Asp Tyr Phe Asn Val Val Thr Lys  
 195 200 205  
 Ile Asn Tyr Phe Asn Asn Pro Glu Phe Val Val Tyr Arg Asn Leu Gly  
 210 215 220  
 Asp Leu Ile Gln Asp Val Lys Asn Phe Val Leu Ser Gly Asn Thr Ser  
 225 230 235 240  
 Lys Leu Leu Asn Ile Arg Asp Lys Asn Asn Phe Phe Ile Gln Ser Trp  
 245 250 255  
 Asp Gln Lys Gly Gly Lys Ser Asn Ser Ile Asn Thr Asn Ser Phe Leu  
 260 265 270  
 Thr Thr Met Ile Arg Leu Gly Gly Arg Arg Lys Asn Gly Ile Gln Phe  
 275 280 285  
 Ala Lys His Leu Glu Ala Asp Ser Ser Asp Asp Ile Ser Tyr Leu Glu  
 290 295 300

Ser Arg Gly Trp Asp His Ile His Glu Trp Tyr Phe Val Phe Lys Arg  
305 310 315 320

Ile Val Tyr Pro Lys Asp Pro Glu Ile Asn Asn Gly Trp Thr Trp Ile  
325 330 335

Gly Val Tyr Leu Gly Lys Lys  
340

<210> 417

<211> 324

<212> PRT

<213> Homo sapiens

<400> 417

Cys Asn Gln Lys Gln Ser Glu Ile Gln Asn Leu Thr His Leu Leu Lys  
1 5 10 15

Ser Ser Asn Lys Asn Arg Leu Asp Lys Phe Leu Ile Ile Asp Arg Val  
20 25 30

Val Asn Ile Tyr Ile Ala Asn Lys Asn Tyr Glu Asp Ala Leu Glu Ile  
35 40 45

Val Asn Asn Gly Ile Ile Asp Asp Glu Ser Arg Glu Tyr Tyr Pro Leu  
50 55 60

Tyr Leu Tyr Leu Met Gly Asn Ile Tyr Asp Ser Met Gly Glu Asp Phe  
65 70 75 80

Val Ala Phe Asn Ile Tyr Lys Arg Val Val Asp Asn Phe Asp Asp Tyr  
85 90 95

Val Tyr Glu Asn His Ser Met Lys Thr Arg Val Ala Lys Lys Ile Val  
100 105 110

Asn Leu Asn Ile Asp Ser Ile Asp Lys Ile Asn Tyr Tyr Lys Phe Ile  
115 120 125

Leu Asn Met Gly Ile Asp Asn Leu Asn Asn Glu Glu Lys Gly Asn Tyr  
130 135 140

Phe Tyr Asn Leu Ala Leu Ser Leu Glu Asp Val Gln Asp Tyr Asp Glu  
145 150 155 160

Ser Tyr Phe Tyr Tyr Lys Lys Phe Leu Ser Ile Pro Arg Ala His Leu  
165 170 175

Lys Ile Asp Ser Arg Asp Tyr Phe Asn Val Val Thr Lys Ile Asn Tyr  
180 185 190

Phe Asn Asn Pro Glu Phe Val Val Tyr Arg Asn Leu Gly Asp Leu Ile  
195 200 205

Gln Asp Val Lys Asn Phe Val Leu Ser Gly Asn Thr Ser Lys Leu Leu  
210 215 220

Asn Ile Arg Asp Lys Asn Asn Phe Phe Ile Gln Ser Trp Asp Gln Lys



```

aagggttaatt atttttataa tcttgcgcta agtttggaag atgttcaaga ttacgatgaa 480
tcttatttttt attataaaaa atttctttca attccaaggg cacattttaa aatagattct 540
agagactatt ttaatgttgt tacaaaaatt aattacttta ataatccaga gtttggttgt 600
tatagaaatt taggagattt aatccaggat gttaaaaaatt ttgttctttc tggtataact 660
tctaaattgc ttaatatag agataagaat aattttttta ttcaaagctg ggatcaaaag 720
ggtggaaga gtaattccat taatactaata agctttttta ccactatgat taggcttggg 780
gggagaagaa aaaacggaat acaatttgca aagcatcttg aggcagattc tagtgacgat 840
atatcttatc ttgagtcaag gggctgggac catattcatg aatgggtattt tgtttttaa 900
agaattgttt atcctaaaga tccagaaatt aataatggct ggacttggat aggcgtgtat 960
ttaggtaaaa aataa 975

```

<210> 420

<211> 339

<212> PRT

<213> Homo sapiens

<400> 420

```

Met Asn Lys Ile Leu Leu Leu Ile Leu Leu Glu Ser Ile Val Phe Leu
  1             5             10             15

Ser Cys Ser Gly Lys Gly Ser Leu Gly Ser Glu Ile Pro Lys Val Ser
          20             25             30

Leu Ile Ile Asp Gly Thr Phe Asp Asp Lys Ser Phe Asn Glu Ser Ala
          35             40             45

Leu Asn Gly Val Lys Lys Val Lys Glu Glu Phe Lys Ile Glu Leu Val
          50             55             60

Leu Lys Glu Ser Ser Ser Asn Ser Tyr Leu Ser Asp Leu Glu Gly Leu
          65             70             75             80

Lys Asp Ala Gly Ser Asp Leu Ile Trp Leu Ile Gly Tyr Arg Phe Ser
          85             90             95

Asp Val Ala Lys Val Ala Ala Leu Gln Asn Pro Asp Met Lys Tyr Ala
          100            105            110

Ile Ile Asp Pro Ile Tyr Ser Asn Asp Pro Ile Pro Ala Asn Leu Val
          115            120            125

Gly Met Thr Phe Arg Ala Gln Glu Gly Ala Phe Leu Thr Gly Tyr Ile
          130            135            140

Ala Ala Lys Leu Ser Lys Thr Gly Lys Ile Gly Phe Leu Gly Gly Ile
          145            150            155            160

Glu Gly Glu Ile Val Asp Ala Phe Arg Tyr Gly Tyr Glu Ala Gly Ala
          165            170            175

Lys Tyr Ala Asn Lys Asp Ile Lys Ile Ser Thr Gln Tyr Ile Gly Ser
          180            185            190

Phe Ala Asp Leu Glu Ala Gly Arg Ser Val Ala Thr Arg Met Tyr Ser
          195            200            205

Asp Glu Ile Asp Ile Ile His His Ala Ala Gly Leu Gly Gly Ile Gly
          210            215            220

```



Ala Ile Glu Val Ala Lys Glu Leu Gly Ser Gly His Tyr Ile Ile Gly  
225 230 235 240

Val Asp Glu Asp Gln Ala Tyr Leu Ala Pro Asp Asn Val Ile Thr Ser  
245 250 255

Thr Thr Lys Asp Val Gly Arg Ala Leu Asn Ile Phe Thr Ser Asn His  
260 265 270

Leu Lys Thr Asn Thr Phe Glu Gly Gly Lys Leu Ile Asn Tyr Gly Leu  
275 280 285

Lys Glu Gly Val Val Gly Phe Val Arg Asn Pro Lys Met Ile Ser Phe  
290 295 300

Glu Leu Glu Lys Glu Ile Asp Asn Leu Ser Ser Lys Ile Ile Asn Lys  
305 310 315 320

Glu Ile Ile Val Pro Ser Asn Lys Glu Ser Tyr Glu Lys Phe Leu Lys  
325 330 335

Glu Phe Ile

<210> 421

<211> 322

<212> PRT

<213> Homo sapiens

<400> 421

Cys Ser Gly Lys Gly Ser Leu Gly Ser Glu Ile Pro Lys Val Ser Leu  
1 5 10 15

Ile Ile Asp Gly Thr Phe Asp Asp Lys Ser Phe Asn Glu Ser Ala Leu  
20 25 30

Asn Gly Val Lys Lys Val Lys Glu Glu Phe Lys Ile Glu Leu Val Leu  
35 40 45

Lys Glu Ser Ser Ser Asn Ser Tyr Leu Ser Asp Leu Glu Gly Leu Lys  
50 55 60

Asp Ala Gly Ser Asp Leu Ile Trp Leu Ile Gly Tyr Arg Phe Ser Asp  
65 70 75 80

Val Ala Lys Val Ala Ala Leu Gln Asn Pro Asp Met Lys Tyr Ala Ile  
85 90 95

Ile Asp Pro Ile Tyr Ser Asn Asp Pro Ile Pro Ala Asn Leu Val Gly  
100 105 110

Met Thr Phe Arg Ala Gln Glu Gly Ala Phe Leu Thr Gly Tyr Ile Ala  
115 120 125

Ala Lys Leu Ser Lys Thr Gly Lys Ile Gly Phe Leu Gly Gly Ile Glu  
130 135 140

Gly Glu Ile Val Asp Ala Phe Arg Tyr Gly Tyr Glu Ala Gly Ala Lys  
145 150 155 160

Tyr Ala Asn Lys Asp Ile Lys Ile Ser Thr Gln Tyr Ile Gly Ser Phe  
165 170 175

Ala Asp Leu Glu Ala Gly Arg Ser Val Ala Thr Arg Met Tyr Ser Asp  
180 185 190

Glu Ile Asp Ile Ile His His Ala Ala Gly Leu Gly Gly Ile Gly Ala  
195 200 205

Ile Glu Val Ala Lys Glu Leu Gly Ser Gly His Tyr Ile Ile Gly Val  
210 215 220

Asp Glu Asp Gln Ala Tyr Leu Ala Pro Asp Asn Val Ile Thr Ser Thr  
225 230 235 240

Thr Lys Asp Val Gly Arg Ala Leu Asn Ile Phe Thr Ser Asn His Leu  
245 250 255

Lys Thr Asn Thr Phe Glu Gly Gly Lys Leu Ile Asn Tyr Gly Leu Lys  
260 265 270

Glu Gly Val Val Gly Phe Val Arg Asn Pro Lys Met Ile Ser Phe Glu  
275 280 285

Leu Glu Lys Glu Ile Asp Asn Leu Ser Ser Lys Ile Ile Asn Lys Glu  
290 295 300

Ile Ile Val Pro Ser Asn Lys Glu Ser Tyr Glu Lys Phe Leu Lys Glu  
305 310 315 320

Phe Ile

<210> 422

<211> 1020

<212> DNA

<213> Homo sapiens

<400> 422

atgaataaaa tattgttggt gattttgctt gagagtattg tttttttatc ttgtagtggg 60  
aaaggtagtc ttgggagcga aattcctaag gtatctttaa taattgatgg aacttttgat 120  
gataaatcct ttaatgagag tgctttaaat ggcgtaaaaa aagttaaaga agaatttaaa 180  
attgagcttg ttttaaaaga atcctcatca aattccttatt tatctgatct tgaagggctt 240  
aaggatgcgg gctcagatct aatttggtt attgggtata gatttagcga tgtggccaag 300  
gttgcggtc ttcaaaatcc cgatatgaaa tatgcaatta ttgatactat ttattctaac 360  
gatcctattc ctgcaaattt ggtgggcatg acctttagag ctcaagaggg tgcattttta 420  
acgggttata ttgctgcaaa acttttctaaa acaggtaaaa ttggattttt agggggaata 480  
gaaggcgaga tagtagatgc ttttaggtat gggtatgaag ctggtgctaa gtatgctaata 540  
aaagatataa agatatctac tcagtatatg ggtagttttg ctgaccttga agctggtaga 600  
agcgttgcaa ctaggatgta ttctgatgag atagacatta ttcacatgac tgcaggcctt 660  
ggaggaattg gggctattga ggttgcaaaa gaacttggtt ctgggcatta cattattgga 720  
gttgatgaag atcaagcata tcttgctcct gacaatgtaa taacatctac aactaaagat 780  
gttggttagag ctttaaataat ttttacatct aaccatttaa aaactaatac tttcgaagg 840  
ggcaaatata taaattatgg ccttaaagaa ggagttgtgg gggttgtaag aaatcctaaa 900  
atgatttcct ttgaacttga aaaagaaatt gacaatcttt ctagcaaaat aatcaacaaa 960

gaaattattg ttccatctaa taaagaaagt tatgagaagt ttcttaaaga atttatttaa 1020

<210> 423

<211> 969

<212> DNA

<213> Homo sapiens

<400> 423

```

tgtagtggta aaggtagtct tgggagcgaa attcctaagg tatctttaat aattgatgga 60
acttttgatg ataaatcttt taatgagagt gcttttaaat gcgtaaaaaa agttaaagaa 120
gaatttataaa ttgagcttgt tttaaaagaa tcctcatcaa attcttattt atctgatctt 180
gaagggttta aggatgcggg ctccagattta atttggctta ttgggtatag atttagcgat 240
gtggccaagg ttgcggctct tcaaaatccc gatatgaaat atgcaattat tgatcctatt 300
tattctaacg atcctattcc tgcaaatttg gtgggcatga ccttttagagc tcaagagggt 360
gcatttttaa cgggttatat tgctgcaaaa ctttctaaaa caggtaaaat tggattttta 420
gggggaatag aaggcgagat agtagatgct tttaggtatg ggtatgaagc tgggtgctaag 480
tatgctaata aagatataaa gatatctact cagtatattg gtagttttgc tgaccttgaa 540
gctggtagaa gcgttgcaac taggatgtat tctgatgaga tagacattat tcatcatgct 600
gcaggccttg gaggaattgg ggctattgag gttgcaaaag aacttggttc tgggcattac 660
attattggag ttgatgaaga tcaagcatat cttgctcctg acaatgtaat aacatctaca 720
actaaagatg ttggtagagc tttaaatatt tttacatcta accattttaa aactaatact 780
ttcgaagggtg gcaaattaat aaattatggc cttaaagaag gagttgtggg gtttgtaaga 840
aatcctaaaa tgatttcctt tgaacttgaa aaagaaattg acaatcttcc tagcaaaata 900
atcaacaaag aaattattgt tccatctaata aaagaaagtt atgagaagtt tcttaaagaa 960
tttattttaa

```

<210> 424

<211> 194

<212> PRT

<213> Homo sapiens

<400> 424

```

Met Tyr Lys Asn Gly Phe Phe Lys Asn Tyr Leu Ser Leu Phe Leu Ile
  1           5           10           15

Phe Leu Val Ile Ala Cys Thr Ser Lys Asp Ser Ser Asn Glu Tyr Val
          20           25           30

Glu Glu Gln Glu Ala Glu Asn Ser Ser Lys Pro Asp Asp Ser Lys Ile
          35           40           45

Asp Glu His Thr Ile Gly His Val Phe His Ala Met Gly Val Val His
          50           55           60

Ser Lys Lys Asp Arg Lys Ser Leu Gly Lys Asn Ile Lys Val Phe Tyr
          65           70           75           80

Phe Ser Glu Glu Asp Gly His Phe Gln Thr Ile Pro Ser Lys Glu Asn
          85           90           95

Ala Lys Leu Ile Val Tyr Phe Tyr Asp Asn Val Tyr Ala Gly Glu Ala
          100          105          110

Pro Ile Ser Ile Ser Gly Lys Glu Ala Phe Ile Phe Val Gly Ile Thr
          115          120          125

Pro Asp Phe Lys Lys Ile Ile Asn Ser Asn Leu His Gly Ala Lys Ser
          130          135          140

```

Asp Leu Ile Gly Thr Phe Lys Asp Leu Asn Ile Lys Asn Ser Lys Leu  
 145 150 155 160

Glu Ile Thr Val Asp Glu Asn Asn Ser Asp Ala Lys Thr Phe Leu Glu  
 165 170 175

Ser Val Asn Tyr Ile Ile Asp Gly Val Glu Lys Ile Ser Pro Met Leu  
 180 185 190

Thr Asn

<210> 425

<211> 173

<212> PRT

<213> Homo sapiens

<400> 425

Cys Thr Ser Lys Asp Ser Ser Asn Glu Tyr Val Glu Glu Gln Glu Ala  
 1 5 10 15

Glu Asn Ser Ser Lys Pro Asp Asp Ser Lys Ile Asp Glu His Thr Ile  
 20 25 30

Gly His Val Phe His Ala Met Gly Val Val His Ser Lys Lys Asp Arg  
 35 40 45

Lys Ser Leu Gly Lys Asn Ile Lys Val Phe Tyr Phe Ser Glu Glu Asp  
 50 55 60

Gly His Phe Gln Thr Ile Pro Ser Lys Glu Asn Ala Lys Leu Ile Val  
 65 70 75 80

Tyr Phe Tyr Asp Asn Val Tyr Ala Gly Glu Ala Pro Ile Ser Ile Ser  
 85 90 95

Gly Lys Glu Ala Phe Ile Phe Val Gly Ile Thr Pro Asp Phe Lys Lys  
 100 105 110

Ile Ile Asn Ser Asn Leu His Gly Ala Lys Ser Asp Leu Ile Gly Thr  
 115 120 125

Phe Lys Asp Leu Asn Ile Lys Asn Ser Lys Leu Glu Ile Thr Val Asp  
 130 135 140

Glu Asn Asn Ser Asp Ala Lys Thr Phe Leu Glu Ser Val Asn Tyr Ile  
 145 150 155 160

Ile Asp Gly Val Glu Lys Ile Ser Pro Met Leu Thr Asn  
 165 170

<210> 426

<211> 585

<212> DNA

<213> Homo sapiens

<400> 426

```

atgtataaaa atgggttttt taaaaactat ttgtcattgt ttttaatttt ttttagtaatt 60
gcttgtactt caaaagatag ctcaaataag tatgttgagg agcaagaagc ggagaactct 120
tctaagcctg atgattctaa aatagatgaa catactattg ggcacgtttt tcacgctatg 180
ggagtagttc attcaaaaaa ggatcgaaaa agtttgggga aaaatataaa ggttttttat 240
ttttctgaag aagatggaca ttttcaaaca ataccctcaa aagagaatgc aaagttaata 300
gtttattttt atgacaatgt ttatgcagga gaggctccaa ttagtatctc tggaaaagaa 360
gcctttattt ttgttgggat taccctgac tttaaaaaga ttataaatag caatttacat 420
ggcgctaaaa gtgatcttat tggtaacttt aaagatctta atattaaaaa ttcaaaattg 480
gaaattacag ttgatgagaa taattcagat gccaaagacct tccttgaatc tgttaattac 540
attatcgacg gcgttgaaaa aatttcacct atgttaacga attaa 585

```

&lt;210&gt; 427

&lt;211&gt; 522

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 427

```

tgtacttcaa aagatagctc aaatgaatat gttgaggagc aagaagcggg gaactcttct 60
aagcctgatg attctaaaat agatgaacat actattgggc acgtttttca cgctatggga 120
gtagttcatt caaaaaagga tcgaaaaagt ttggggaaaa atataaaggt tttttatttt 180
tctgaagaag atggacattt tcaaacaata ccctcaaaag agaatgcaaa gttaatagtt 240
tatttttatg acaatgttta tgcaggagag gctccaatta gtatctctgg aaaagaagcc 300
tttatttttg ttgggattac ccctgacttt aaaaagatta taaatagcaa ttacatggc 360
gctaaaagtg atcttattgg tactttttaa gatcttaata ttaaaaattc aaaattggaa 420
attacagttg atgagaataa ttcagatgcc aagaccttcc ttgaatctgt taattacatt 480
atcgacggcg ttgaaaaaat ttcacctatg ttaacgaatt aa 522

```

&lt;210&gt; 428

&lt;211&gt; 541

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 428

```

Met Ser Phe Asn Lys Thr Lys Lys Ile Gly Lys Lys Ile Lys Ile Val
  1             5             10             15
Thr Leu Leu Met Leu Ala Val Ser Leu Ile Ala Cys Asn Asn Asn Ser
      20             25             30
Glu Lys Glu Lys Leu Ala Phe Lys Val Tyr Ile Gly Gly Ala Pro Ser
      35             40             45
Ser Leu Asp Pro His Leu Val Asp Glu Thr Ile Gly Ala Arg Ile Leu
      50             55             60
Glu Gln Ile Phe Ser Gly Leu Leu Thr Leu Asn Thr Lys Thr Gly Lys
      65             70             75             80
Leu Lys Pro Gly Leu Ala Lys Asn Trp Glu Ala Ser Lys Asp Lys Lys
      85             90             95
Thr Tyr Gln Phe Tyr Leu Arg Asp Asn Leu Phe Trp Ser Asp Gly Val
      100            105            110
Glu Ile Thr Ala Glu Gly Ile Arg Lys Ser Phe Leu Arg Ile Leu Asn
      115            120            125
Lys Glu Thr Gly Ser Thr Asn Val Asp Met Leu Lys Ser Ile Ile Lys

```

130	135	140
Asn Gly Gln Glu Tyr Phe Asp Gly Lys Val Ser Asp Ser Glu Leu Gly		
145	150	155 160
Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu Ile Thr Leu Thr Ala Pro		
	165	170 175
Lys Pro Tyr Phe Leu Glu Leu Leu Leu His Tyr Ala Phe Met Pro Val		
	180	185 190
Pro Ile His Val Ile Glu Lys Tyr Lys Gly Asn Trp Thr Ser Pro Glu		
	195	200 205
Asn Met Val Thr Ser Gly Pro Phe Lys Leu Lys Lys Arg Leu Pro Asn		
	210	215 220
Glu Lys Ile Ile Phe Glu Lys Asn Glu Arg Tyr Tyr Asn Ala Lys Glu		
	225	230 235 240
Val Glu Leu Asp Glu Leu Val Tyr Ile Thr Ser Asp Asn Asp Leu Thr		
	245	250 255
Val Tyr Asn Met Tyr Lys Asn Asn Glu Ile Asp Ala Ile Phe Asn Ser		
	260	265 270
Ile Pro Pro Asp Ile Val Asn Glu Ile Lys Leu Gln Lys Asp Tyr Tyr		
	275	280 285
Gln His Lys Ser Asn Ala Ile Tyr Leu Tyr Ser Phe Asn Thr Lys Ile		
	290	295 300
Lys Pro Leu Asp Asp Ala Arg Val Arg Glu Ala Leu Thr Leu Ala Ile		
	305	310 315 320
Asp Arg Glu Thr Leu Thr Tyr Lys Val Leu Asn Asp Gly Thr Val Pro		
	325	330 335
Thr Arg Glu Ile Thr Pro Asp Leu Lys Asn Tyr Asn Tyr Gly Lys Lys		
	340	345 350
Leu Ala Leu Phe Asp Pro Glu Lys Ser Lys Lys Leu Leu Ala Asp Ala		
	355	360 365
Gly Tyr Pro Asn Gly Lys Gly Phe Pro Met Leu Thr Leu Lys Tyr Asn		
	370	375 380
Thr Asn Glu Thr His Lys Lys Ile Ala Ala Phe Ile Gln Asn Gln Trp		
	385	390 395 400
Lys Lys Ile Leu Asn Ile Asn Leu Met Leu Thr Asn Glu Asn Trp Pro		
	405	410 415
Val Leu Thr Asn Ser Arg Asn Thr Gly Asn Phe Glu Ile Ile Arg Val		
	420	425 430
Gly Arg Ile Gly Glu Tyr Leu Asp Pro His Thr Tyr Phe Thr Ile Phe		
	435	440 445

Thr Arg Glu Asn Ser Gln Leu Ala Ser Tyr Gly Tyr Ser Asn Leu Glu  
450 455 460

Phe Asp Lys Leu Ile Arg Glu Ser Asp Leu Glu Lys Asp Pro Ile Lys  
465 470 475 480

Arg Lys Gln Leu Leu Arg Lys Ala Glu Ser Ile Ile Ile Glu Lys Asp  
485 490 495

Phe Pro Ala Ala Pro Ile Tyr Ile Tyr Ser Gly His Tyr Leu Phe Arg  
500 505 510

Asn Asp Lys Trp Thr Gly Trp Asn Pro Asn Val Ser Glu Val Tyr Tyr  
515 520 525

Leu Ser Glu Leu Lys Pro Ile Lys Asn Ala Lys His Asn  
530 535 540

<210> 429

<211> 514

<212> PRT

<213> Homo sapiens

<400> 429

Cys Asn Asn Asn Ser Glu Lys Glu Lys Leu Ala Phe Lys Val Tyr Ile  
1 5 10 15

Gly Gly Ala Pro Ser Ser Leu Asp Pro His Leu Val Asp Glu Thr Ile  
20 25 30

Gly Ala Arg Ile Leu Glu Gln Ile Phe Ser Gly Leu Leu Thr Leu Asn  
35 40 45

Thr Lys Thr Gly Lys Leu Lys Pro Gly Leu Ala Lys Asn Trp Glu Ala  
50 55 60

Ser Lys Asp Lys Lys Thr Tyr Gln Phe Tyr Leu Arg Asp Asn Leu Phe  
65 70 75 80

Trp Ser Asp Gly Val Glu Ile Thr Ala Glu Gly Ile Arg Lys Ser Phe  
85 90 95

Leu Arg Ile Leu Asn Lys Glu Thr Gly Ser Thr Asn Val Asp Met Leu  
100 105 110

Lys Ser Ile Ile Lys Asn Gly Gln Glu Tyr Phe Asp Gly Lys Val Ser  
115 120 125

Asp Ser Glu Leu Gly Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu Ile  
130 135 140

Thr Leu Thr Ala Pro Lys Pro Tyr Phe Leu Glu Leu Leu Leu His Tyr  
145 150 155 160

Ala Phe Met Pro Val Pro Ile His Val Ile Glu Lys Tyr Lys Gly Asn  
165 170 175

Trp Thr Ser Pro Glu Asn Met Val Thr Ser Gly Pro Phe Lys Leu Lys  
 180 185 190  
 Lys Arg Leu Pro Asn Glu Lys Ile Ile Phe Glu Lys Asn Glu Arg Tyr  
 195 200 205  
 Tyr Asn Ala Lys Glu Val Glu Leu Asp Glu Leu Val Tyr Ile Thr Ser  
 210 215 220  
 Asp Asn Asp Leu Thr Val Tyr Asn Met Tyr Lys Asn Asn Glu Ile Asp  
 225 230 235 240  
 Ala Ile Phe Asn Ser Ile Pro Pro Asp Ile Val Asn Glu Ile Lys Leu  
 245 250 255  
 Gln Lys Asp Tyr Tyr Gln His Lys Ser Asn Ala Ile Tyr Leu Tyr Ser  
 260 265 270  
 Phe Asn Thr Lys Ile Lys Pro Leu Asp Asp Ala Arg Val Arg Glu Ala  
 275 280 285  
 Leu Thr Leu Ala Ile Asp Arg Glu Thr Leu Thr Tyr Lys Val Leu Asn  
 290 295 300  
 Asp Gly Thr Val Pro Thr Arg Glu Ile Thr Pro Asp Leu Lys Asn Tyr  
 305 310 315 320  
 Asn Tyr Gly Lys Lys Leu Ala Leu Phe Asp Pro Glu Lys Ser Lys Lys  
 325 330 335  
 Leu Leu Ala Asp Ala Gly Tyr Pro Asn Gly Lys Gly Phe Pro Met Leu  
 340 345 350  
 Thr Leu Lys Tyr Asn Thr Asn Glu Thr His Lys Lys Ile Ala Ala Phe  
 355 360 365  
 Ile Gln Asn Gln Trp Lys Lys Ile Leu Asn Ile Asn Leu Met Leu Thr  
 370 375 380  
 Asn Glu Asn Trp Pro Val Leu Thr Asn Ser Arg Asn Thr Gly Asn Phe  
 385 390 395 400  
 Glu Ile Ile Arg Val Gly Arg Ile Gly Glu Tyr Leu Asp Pro His Thr  
 405 410 415  
 Tyr Phe Thr Ile Phe Thr Arg Glu Asn Ser Gln Leu Ala Ser Tyr Gly  
 420 425 430  
 Tyr Ser Asn Leu Glu Phe Asp Lys Leu Ile Arg Glu Ser Asp Leu Glu  
 435 440 445  
 Lys Asp Pro Ile Lys Arg Lys Gln Leu Leu Arg Lys Ala Glu Ser Ile  
 450 455 460  
 Ile Ile Glu Lys Asp Phe Pro Ala Ala Pro Ile Tyr Ile Tyr Ser Gly  
 465 470 475 480  
 His Tyr Leu Phe Arg Asn Asp Lys Trp Thr Gly Trp Asn Pro Asn Val



485

490

495

Ser Glu Val Tyr Tyr Leu Ser Glu Leu Lys Pro Ile Lys Asn Ala Lys  
 500 505 510

His Asn

&lt;210&gt; 430

&lt;211&gt; 1626

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 430

```

atgagcttta ataaaaactaa aaaaatcggt aaaaaaatta aaatagtaac actacttatg 60
cttgctgtgt ctttaattgc atgcaataat aattcagaaa aagaaaaaatt agcattttaa 120
gtatacatag ggggagcgcc ctcatcgctt gaccctcatt tggtagatga gacaatagga 180
gcaagaatth tagaacaat attctcaggg cttttgacat taaataccaa aacaggaaaag 240
ctaaagcccc gacttgctaa aaattgggaa gcctcaaaaag ataaaaaaac atatcaattt 300
tatctaaggg acaacctttt ttggagcgat ggagttgaaa ttaccgctga agggataaga 360
aaatcttttt taagaatttt aaataaagaa acaggatcta caaatgttga catgctcaaa 420
tcaataataa aaaatggaca agagtatttt gacgggaaaag tatccgattc tgaacttgga 480
atcaaggcaa ttgatagtaa aacgctggaa ataacactta cgccccaaa gccatatttt 540
cttgaactgc ttctacatta cgcattcatg ccagtaccta ttcattgtgat tgaaaaatat 600
aagggaaatt ggacaagccc tgaaaacatg gttactagcg gtcccttttaa attaaaaaaa 660
agattaccta atgaaaaaat tatctttgaa aaaaacgaac gttattataa tgcaaaaagaa 720
gtagaacttg atgagcttgt ctacattacg tctgacaatg atcttactgt gtacaatatg 780
tacaaaaaca acgaaattga tgctattttt aacagcatcc cgccggacat tgtaaatgaa 840
ataaaactac aaaaagacta ttaccaacac aaaagtaatg caatttattt atattcattt 900
aatacaaaaa taaaaccctt tgatgatgct agagttagag aagctttaac cttagctatt 960
gacagagaaa ctttaactta caaagtgcta aatgatggca cagttcctac aagagaaaata 1020
actcctgatc ttaaaaatta caattacggt aaaaaattgg ctttatttga tcttgaaaaa 1080
tctaaaaagc ttttggcaga tgcagggtat cctaattggga aaggattccc aatgctaaca 1140
ctaaaatata atacaaacga aactcataaa aaaattgctg catttattca aaaccaatgg 1200
aaaaaaattc taaatatcaa tcttatgctt accaacgaaa attggcctgt tcttaccac 1260
agcagaaata ctggcaattt tgaaataata agagttaggac gcattgggga atatttagat 1320
ccacacacat actttactat attcacaaga gaaaattcac aacttgcatc atacggatat 1380
tcaaacctag aatttgacaa actcatcaga gaatcagatc ttgaaaaaga tctataaaaa 1440
agaaaacaat tactcagaaa agcagaatca ataataattg aaaaagattt tctgctgca 1500
ccaatataca tatattctgg gcattatctt tttgaaaacg ataaatggac tggatggaat 1560
cctaattgat cagaggttta ttatctttct gaattaaaac caattaaaaa tgcaaaacat 1620
aattaa 1626

```

&lt;210&gt; 431

&lt;211&gt; 1545

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 431

```

tgcaataata attcagaaaa agaaaaatta gcattttaaag tatacatagg gggagcgccc 60
tcctcgcttg accctcattt ggtagatgag acaataggag caagaatttt agaacaaata 120
ttctcagggc ttttgacatt aaataccaaa acaggaaaagc taaagccccg acttgctaaa 180
aattgggaag cctcaaaaaga taaaaaaaca tatcaatttt atctaaggga caaccttttt 240
tggagcgatg gagttgaaat taccgctgaa gggataagaa aatctttttt aagaatttta 300
aataaagaaa caggatctac aaatgttgac atgctcaaat caataataaa aaatggacaa 360
gagtattttg acgggaaagt atccgattct gaacttgga tcaaggcaat tgatagtaaa 420
acgctggaaa taacacttac ggccccaag ccatattttc ttgaactgct tctacattac 480
gcattcatgc cagtacctat tcatgtgatt gaaaaatata agggaaattg gacaagccct 540

```

```

gaaaacatgg ttactagcgg tcctttttaa ttaaaaaaaa gattaccta tgaaaaaatt 600
atctttgaaa aaaacgaacg ttattataat gcaaaagaag tagaacttga tgagcttgtc 660
tacattacgt ctgacaatga tcttactgtg tacaatatgt acaaaaacaa cgaaattgat 720
gctattttta acagcatccc gccggacatt gtaaataaaa taaaactaca aaaagactat 780
taccaacaca aaagtaatgc aattttattta tattcattta atacaaaaat aaaaccctt 840
gatgatgcta gagttagaga agctttaacc tttagctattg acagagaaac ttttaacttac 900
aaagtgctaa atgatggcac agttcctaca agagaaataa ctcctgatct taaaaattac 960
aattacggta aaaaattggc tttatttgat cctgaaaaat ctaaaaagct tttggcagat 1020
gcagggtatc ctaatgggaa aggattccca atgctaacac taaaatataa tacaaacgaa 1080
actcataaaa aaattgctgc atttattcaa aaccaatgga aaaaaattct aaatatcaat 1140
cttatgctta ccaacgaaaa ttggcctgtt cttaccaaca gcagaaatac tggcaatttt 1200
gaaataataa gagttggacg cattggggaa tatttagatc cacacacata ctttactata 1260
ttcacaagag aaaattcaca acttgcatca tacggatatt caaacctaga atttgacaaa 1320
ctcatcagag aatcagatct tgaaaaagat cctataaaaa gaaaacaatt actcagaaaa 1380
gcagaatcaa taataattga aaaagatttt cctgctgcac caatatatat atattctggg 1440
cattatcttt ttagaaacga taaatggact ggatggaatc ctaatgtatc agaggtttat 1500
tatctttctg aattaaaacc aattaaaaat gcaaaacata attaa 1545

```

&lt;210&gt; 432

&lt;211&gt; 279

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 432

```

Met Lys Lys Val Ile Ile Leu Ile Phe Met Leu Ser Thr Ser Leu Leu
  1             5             10             15

```

```

Tyr Asn Cys Lys Asn Gln Asp Asn Glu Lys Ile Val Ser Ile Gly Gly
          20             25             30

```

```

Ser Thr Thr Val Ser Pro Ile Leu Asp Glu Met Ile Leu Arg Tyr Asn
    35             40             45

```

```

Lys Ile Asn Asn Asn Thr Lys Val Thr Tyr Asp Ala Gln Gly Ser Ser
    50             55             60

```

```

Val Gly Ile Asn Gly Leu Phe Asn Lys Ile Tyr Lys Ile Ala Ile Ser
    65             70             75             80

```

```

Ser Arg Asp Leu Thr Lys Glu Glu Ile Glu Gln Gly Ala Lys Glu Thr
          85             90             95

```

```

Val Phe Ala Tyr Asp Ala Leu Ile Phe Ile Thr Ser Pro Glu Ile Lys
    100             105             110

```

```

Ile Thr Asn Ile Thr Glu Glu Asn Leu Ala Lys Ile Leu Asn Gly Glu
    115             120             125

```

```

Ile Gln Asn Trp Lys Gln Val Gly Gly Pro Asp Ala Lys Ile Asn Phe
    130             135             140

```

```

Ile Asn Arg Asp Ser Ser Ser Gly Ser Tyr Ser Ser Ile Lys Asp Leu
    145             150             155             160

```

```

Leu Leu Asn Lys Ile Phe Lys Thr His Glu Glu Ala Gln Phe Arg Gln
    165             170             175

```

```

Asp Gly Ile Val Val Lys Ser Asn Gly Glu Val Ile Glu Lys Thr Ser

```

180                      185                      190  
 Leu Thr Pro His Ser Ile Gly Tyr Ile Gly Leu Gly Tyr Ala Lys Asn  
                     195                      200                      205  
 Ser Ile Glu Lys Gly Leu Asn Ile Leu Ser Val Asn Ser Thr Tyr Pro  
                     210                      215                      220  
 Thr Lys Glu Thr Ile Asn Ser Asn Lys Tyr Thr Ile Lys Arg Asn Leu  
                     225                      230                      235                      240  
 Ile Ile Val Thr Asn Asn Lys Tyr Glu Asp Lys Ser Val Thr Gln Phe  
                     245                      250                      255  
 Ile Asp Phe Met Thr Ser Ser Thr Gly Gln Asp Ile Val Glu Glu Gln  
                     260                      265                      270  
 Gly Phe Leu Gly Ile Lys Thr  
                     275  
 <210> 433  
 <211> 261  
 <212> PRT  
 <213> Homo sapiens  
 <400> 433  
 Cys Lys Asn Gln Asp Asn Glu Lys Ile Val Ser Ile Gly Gly Ser Thr  
                     1                      5                      10                      15  
 Thr Val Ser Pro Ile Leu Asp Glu Met Ile Leu Arg Tyr Asn Lys Ile  
                     20                      25                      30  
 Asn Asn Asn Thr Lys Val Thr Tyr Asp Ala Gln Gly Ser Ser Val Gly  
                     35                      40                      45  
 Ile Asn Gly Leu Phe Asn Lys Ile Tyr Lys Ile Ala Ile Ser Ser Arg  
                     50                      55                      60  
 Asp Leu Thr Lys Glu Glu Ile Glu Gln Gly Ala Lys Glu Thr Val Phe  
                     65                      70                      75                      80  
 Ala Tyr Asp Ala Leu Ile Phe Ile Thr Ser Pro Glu Ile Lys Ile Thr  
                     85                      90                      95  
 Asn Ile Thr Glu Glu Asn Leu Ala Lys Ile Leu Asn Gly Glu Ile Gln  
                     100                      105                      110  
 Asn Trp Lys Gln Val Gly Gly Pro Asp Ala Lys Ile Asn Phe Ile Asn  
                     115                      120                      125  
 Arg Asp Ser Ser Ser Gly Ser Tyr Ser Ser Ile Lys Asp Leu Leu Leu  
                     130                      135                      140  
 Asn Lys Ile Phe Lys Thr His Glu Glu Ala Gln Phe Arg Gln Asp Gly  
                     145                      150                      155                      160  
 Ile Val Val Lys Ser Asn Gly Glu Val Ile Glu Lys Thr Ser Leu Thr  
                     165                      170                      175

Pro His Ser Ile Gly Tyr Ile Gly Leu Gly Tyr Ala Lys Asn Ser Ile  
 180 185 190

Glu Lys Gly Leu Asn Ile Leu Ser Val Asn Ser Thr Tyr Pro Thr Lys  
 195 200 205

Glu Thr Ile Asn Ser Asn Lys Tyr Thr Ile Lys Arg Asn Leu Ile Ile  
 210 215 220

Val Thr Asn Asn Lys Tyr Glu Asp Lys Ser Val Thr Gln Phe Ile Asp  
 225 230 235 240

Phe Met Thr Ser Ser Thr Gly Gln Asp Ile Val Glu Glu Gln Gly Phe  
 245 250 255

Leu Gly Ile Lys Thr  
 260

<210> 434

<211> 840

<212> DNA

<213> Homo sapiens

<400> 434

atgaaaaaag ttattatctt aattttttatg ctatcaacaa gttttattata caactgtaaa 60  
 aatcaagaca atgaaaaaat tgtatcaatt ggaggatcta caactgtaag cccaatacta 120  
 gacgaaatga ttttaagata taataaaaata aacaataata cttaaagtaac atacgatgca 180  
 caaggaagta gtgttggcat aaacgggcta ttttaacaaaa tatataaaat agcaatatca 240  
 tcaagagatt taacaaaaga agaaattgaa caaggggcaa aagaaactgt atttgcttat 300  
 gatgctttta ttttcattac aagccctgaa ataaaaatta caaatattac agaagaaaat 360  
 cttagctaaaa tactaaatgg agaaattcaa aattggaaac aagtgggagg tccctgatgct 420  
 aaaatcaact ttatcaatcg agactcttct tctggttctt attcgtctat aaaagaccta 480  
 cttcttaata aaatattcaa aactcacgaa gaagctcaat ttagacaaga cggaatagtg 540  
 gtaaaatcta atggagaggt aattgaaaaa acaagcctta ctccccactc aataggatat 600  
 ataggtcttg gatacgcaaa aaattcaata gaaaagggtt tgaatattct ttctgttaac 660  
 agcacatatc ctacaaaaga aacaataaat agcaataaat acaccattaa aagaaattta 720  
 ataatagtta caaataacaa atacgaggat aaaagcgtaa ctcaatttat tgatttcatg 780  
 acaagctcaa ctggacaaga tattgttgaa gaacaaggct ttttagggat aaaaacataa 840

<210> 435

<211> 786

<212> DNA

<213> Homo sapiens

<400> 435

tgtaaaaatc aagacaatga aaaaattgta tcaattggag gatctacaac tgtaagccca 60  
 atactagacg aaatgatttt agatatataat aaaataaaca ataatactaa agtaacatac 120  
 gatgcacaag gaagtagtgt tggcataaac gggctattta acaaaatata taaaatagca 180  
 atatcatcaa gagatttaac aaaagaagaa attgaacaag gggcaaaaga aactgtattt 240  
 gcttatgatg cttaattttt cattacaagc cctgaaataa aaattacaaa tattacagaa 300  
 gaaaatctag ctaaaatact aaatggagaa attcaaaatt ggaaacaagt gggaggctct 360  
 gatgctaaaa tcaactttat caatcgagac tcttcttctg gttcttattc gtctataaaa 420  
 gacctacttc ttaataaaat attcaaaact cacgaagaag ctcaatttag acaagacgga 480  
 atagtggtaa aatctaattg agaggtaatt gaaaaaacia gccttactcc ccaactcaata 540  
 ggatatatat gtcttggata cgcaaaaaat tcaatagaaa agggtttgaa tattctttct 600  
 gttaacagca catatcctac aaaagaaaca ataaatagca ataaatacac cattaagaaga 660  
 aatttaataa tagttacaaa taacaaatac gaggataaaa gcgtaactca atttattgat 720

ttcatgacaa gctcaactgg acaagatatt gttgaagaac aaggcttttt agggataaaa 780  
acataa 786

<210> 436

<211> 508

<212> PRT

<213> Homo sapiens

<400> 436

Met Asn Lys Lys Leu Asn Glu Val Leu Leu Lys Leu Asp Gln Asp Leu  
1 5 10 15

Ile Lys Cys Val Lys Gly Ser Leu Asp Leu Glu Ile Ser Gly Val Thr  
20 25 30

Tyr Ser Ser Lys Leu Val Leu Pro Arg Phe Val Phe Phe Ala Leu Pro  
35 40 45

Gly Ile His Phe Asp Gly His Asp Phe Ile Glu Ile Ala Ile Gln Lys  
50 55 60

Gly Ser Asn Val Val Val Cys Ser Arg Asp Val Asp Phe Tyr Ser Pro  
65 70 75 80

Asn Val Thr Tyr Ile Lys Val Asp Asp Phe Asn Ile Arg Lys Phe Met  
85 90 95

Ser Asn Phe Ser Asn Ile Phe Tyr Asp Glu Pro Ser Lys Lys Leu Lys  
100 105 110

Val Ile Gly Val Thr Gly Thr Asp Gly Lys Ser Ser Val Cys Tyr Tyr  
115 120 125

Ile Tyr Leu Leu Phe Lys Lys Lys Gly Val Lys Val Gly Phe Ile Ser  
130 135 140

Thr Val Phe Phe Asp Asp Gly Ser Gly Ser Leu Ile Lys Asn Pro Tyr  
145 150 155 160

Arg Gln Ser Thr Pro Glu Ser Thr Glu Ile His Ser Phe Leu Ser Thr  
165 170 175

Met Val Lys Asn Glu Ala Gln Tyr Ala Ile Leu Glu Ser Thr Ser His  
180 185 190

Gly Leu Asp Leu Glu Thr Ala Arg Leu Ile Asp Val Asn Tyr Phe Ala  
195 200 205

Val Val Phe Thr Asn Ile Gly His Glu His Leu Glu Phe His Gly Thr  
210 215 220

Ile Gln Asn Tyr Leu Asn Val Lys Leu Gly Leu Phe Arg Ser Val Ser  
225 230 235 240

Asp Asp Ala Gly Phe Gly Val Ile Asn Leu Asp Asp Leu Tyr Ser Ser  
245 250 255

Asp Phe Lys Asn Ala Val Lys Lys Ser Phe Thr Tyr Ser Leu Lys Ser

260							265							270						
Ser	Lys	Ala	Asp	Phe	Phe	Val	Ser	Phe	Ile	Asp	Glu	Lys	Thr	Asp	Ser					
		275					280					285								
Thr	Arg	Phe	Glu	Phe	Tyr	His	Lys	Gly	Val	Lys	Tyr	Leu	Ala	Asn	Val					
	290					295					300									
Ser	Leu	Leu	Gly	Ser	Phe	Asn	Val	Glu	Asn	Val	Met	Ala	Ala	Leu	Ile					
305					310					315					320					
Leu	Val	Ser	Gln	Ile	Leu	Asn	Ile	Asp	Ile	Gln	Asp	Ile	Val	Asp	Lys					
				325					330					335						
Leu	Asn	Cys	Ile	Lys	Ser	Leu	Asp	Gly	Arg	Met	Asp	Ser	Ile	Asn	Leu					
			340					345					350							
Gly	Gln	Asn	Phe	Ser	Val	Ile	Ile	Asp	Tyr	Ala	His	Thr	Pro	Gly	Ala					
		355					360					365								
Phe	Ser	Lys	Leu	Phe	Pro	Ile	Phe	Lys	Arg	Phe	Ala	Thr	Asn	Arg	Leu					
	370					375					380									
Ile	Ser	Val	Phe	Gly	Ser	Ala	Gly	Glu	Arg	Asp	Val	Glu	Lys	Arg	Phe					
385					390					395					400					
Leu	Gln	Gly	Gln	Ile	Ala	Asp	Ile	Tyr	Ser	Asp	Leu	Ile	Ile	Leu	Cys					
				405					410					415						
Asp	Glu	Asp	Pro	Arg	Gly	Glu	Asn	Ser	Met	Cys	Ile	Ile	Lys	Asp	Ile					
			420					425					430							
Ala	Lys	Gly	Ile	Val	Asn	Lys	Val	Glu	Asn	Lys	Asp	Leu	Phe	Phe	Ile					
		435					440					445								
Ala	Asp	Arg	Lys	Gln	Ala	Ile	Glu	Lys	Ala	Ile	Ser	Leu	Ala	Lys	Ala					
	450					455					460									
Gly	Asp	Leu	Val	Val	Ala	Leu	Gly	Lys	Gly	His	Glu	Ser	Ser	Ile	Ile					
465					470					475					480					
Tyr	Lys	Asn	Arg	Glu	Val	Phe	Trp	Asn	Glu	Gln	Glu	Val	Val	Lys	Asn					
				485					490					495						
Ala	Ile	Leu	Ser	Leu	Glu	Lys	Ser	Glu	Lys	Glu	Lys									
			500					505												

```
<210> 437
<211> 490
<212> PRT
<213> Homo sapiens
```

<400> 437  
Cys Val Lys Gly Ser Leu Asp Leu Glu Ile Ser Gly Val Thr Tyr Ser  
1 5 10 15  
Ser Lys Leu Val Leu Pro Arg Phe Val Phe Phe Ala Leu Pro Gly Ile  
20 25 30

His	Phe	Asp	Gly	His	Asp	Phe	Ile	Glu	Ile	Ala	Ile	Gln	Lys	Gly	Ser
		35					40					45			
Asn	Val	Val	Val	Cys	Ser	Arg	Asp	Val	Asp	Phe	Tyr	Ser	Pro	Asn	Val
	50					55					60				
Thr	Tyr	Ile	Lys	Val	Asp	Asp	Phe	Asn	Ile	Arg	Lys	Phe	Met	Ser	Asn
	65				70					75					80
Phe	Ser	Asn	Ile	Phe	Tyr	Asp	Glu	Pro	Ser	Lys	Lys	Leu	Lys	Val	Ile
				85					90					95	
Gly	Val	Thr	Gly	Thr	Asp	Gly	Lys	Ser	Ser	Val	Cys	Tyr	Tyr	Ile	Tyr
			100					105					110		
Leu	Leu	Phe	Lys	Lys	Lys	Gly	Val	Lys	Val	Gly	Phe	Ile	Ser	Thr	Val
		115					120					125			
Phe	Phe	Asp	Asp	Gly	Ser	Gly	Ser	Leu	Ile	Lys	Asn	Pro	Tyr	Arg	Gln
	130					135					140				
Ser	Thr	Pro	Glu	Ser	Thr	Glu	Ile	His	Ser	Phe	Leu	Ser	Thr	Met	Val
	145				150					155					160
Lys	Asn	Glu	Ala	Gln	Tyr	Ala	Ile	Leu	Glu	Ser	Thr	Ser	His	Gly	Leu
				165					170					175	
Asp	Leu	Glu	Thr	Ala	Arg	Leu	Ile	Asp	Val	Asn	Tyr	Phe	Ala	Val	Val
			180					185					190		
Phe	Thr	Asn	Ile	Gly	His	Glu	His	Leu	Glu	Phe	His	Gly	Thr	Ile	Gln
		195					200					205			
Asn	Tyr	Leu	Asn	Val	Lys	Leu	Gly	Leu	Phe	Arg	Ser	Val	Ser	Asp	Asp
	210					215					220				
Ala	Gly	Phe	Gly	Val	Ile	Asn	Leu	Asp	Asp	Leu	Tyr	Ser	Ser	Asp	Phe
	225				230					235					240
Lys	Asn	Ala	Val	Lys	Lys	Ser	Phe	Thr	Tyr	Ser	Leu	Lys	Ser	Ser	Lys
				245					250					255	
Ala	Asp	Phe	Phe	Val	Ser	Phe	Ile	Asp	Glu	Lys	Thr	Asp	Ser	Thr	Arg
			260					265					270		
Phe	Glu	Phe	Tyr	His	Lys	Gly	Val	Lys	Tyr	Leu	Ala	Asn	Val	Ser	Leu
		275					280					285			
Leu	Gly	Ser	Phe	Asn	Val	Glu	Asn	Val	Met	Ala	Ala	Leu	Ile	Leu	Val
	290					295					300				
Ser	Gln	Ile	Leu	Asn	Ile	Asp	Ile	Gln	Asp	Ile	Val	Asp	Lys	Leu	Asn
	305				310					315					320
Cys	Ile	Lys	Ser	Leu	Asp	Gly	Arg	Met	Asp	Ser	Ile	Asn	Leu	Gly	Gln
				325					330					335	

Asn Phe Ser Val Ile Ile Asp Tyr Ala His Thr Pro Gly Ala Phe Ser  
 340 345 350  
 Lys Leu Phe Pro Ile Phe Lys Arg Phe Ala Thr Asn Arg Leu Ile Ser  
 355 360 365  
 Val Phe Gly Ser Ala Gly Glu Arg Asp Val Glu Lys Arg Phe Leu Gln  
 370 375 380  
 Gly Gln Ile Ala Asp Ile Tyr Ser Asp Leu Ile Ile Leu Cys Asp Glu  
 385 390 395 400  
 Asp Pro Arg Gly Glu Asn Ser Met Cys Ile Ile Lys Asp Ile Ala Lys  
 405 410 415  
 Gly Ile Val Asn Lys Val Glu Asn Lys Asp Leu Phe Phe Ile Ala Asp  
 420 425 430  
 Arg Lys Gln Ala Ile Glu Lys Ala Ile Ser Leu Ala Lys Ala Gly Asp  
 435 440 445  
 Leu Val Val Ala Leu Gly Lys Gly His Glu Ser Ser Ile Ile Tyr Lys  
 450 455 460  
 Asn Arg Glu Val Phe Trp Asn Glu Gln Glu Val Val Lys Asn Ala Ile  
 465 470 475 480  
 Leu Ser Leu Glu Lys Ser Glu Lys Glu Lys  
 485 490

&lt;210&gt; 438

&lt;211&gt; 1527

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 438

atgaataaaa aacttaatga agttttatta aagtttagatc aagatttaaat aaaatgtgta 60  
 aaaggttctc ttgattttaga aatatcagga gttacttata gttctaaatt ggttttgccc 120  
 aggtttgtgt tttttgctct tccaggaatt cattttgatg ggcattgattt tattgaaatt 180  
 gcaattcaaaa aggtagtaga tgttggttggtg tttcacgag atgtggattt ttacagtcct 240  
 aatgttactt atattaaggt agatgacttt aacataagaa aatttatgtc taatttttca 300  
 aatatttttt atgatgagcc ttcaaaaaaa ttaaaagtta ttggagtcac tggcactgac 360  
 gggaaaagtt ctgtttggtta ttatatatat cttcttttta aaaaaaaggg tgttaaagta 420  
 ggttttatat cgacagtatt ttttgatgat gggagtggaa gcttgattaa aaatccttac 480  
 agacaatcaa ctcccgagtc tacggaaata cattcatttt taagcaccat ggttaaaaat 540  
 gaagctcaat atgcaattct tgaatctact tctcatgggc ttgaccttga aacagcaagg 600  
 cttattgatg ttaattattt tgcagttggt tttaccaata ttggacatga gcatcttgaa 660  
 tttcatggca caattcaaaa ttatttgaat gtcaagctgg gtctttttcg gtctgttagt 720  
 gatgatgctg gttttggggt tattaatctt gatgaccttt attcttctga ttttaagaat 780  
 gctgttaaga aatctttttac ttatagctta aaaagcagta aagcggattt ttttgtagt 840  
 tttattgatg agaaaaccga ttctactaga tttgaatttt atcacaaggg ggttaaatat 900  
 cttgctaagt ttagcctact ggggagtttt aatgttgaga atgtaatggc tgctcttatt 960  
 ttgatttctc aaatttttaa tatcgatatt caagatattg ttgataaact taactgcatt 1020  
 aaaagtcttg atgggcgtat ggatagtatt aatttggggc aaaatttttc tgtaataatt 1080  
 gattatgctc atactcctgg tgctttttcc aagctttttc ctatttttaa aagatttgct 1140  
 accaatagat tgatttctgt ttttggtctt gcaggagaaa gagatgttga aaaaagattt 1200  
 ttgcaagggc aaatcgaga tattttattt gatttaataa tactttgcga tgaagatcca 1260  
 agaggcgaga atagtatgtg tataattaaa gacattgcaa aaggaattgt aaataaagtt 1320



```

gaaaataagg atttatTTTT tattgctgat agaaagcagg ctattgaaaa agcaataagt 1380
cttgcaaaag caggagattt ggttggtgct ttgggcaaaag gtcataaaaag ttcaataatt 1440
tataaaaaata gagaagtttt ttggaatgaa caagaggtag ttaaaaaatgc tatttttaagt 1500
ttaaaaaaat cagaaaagga gaagtga 1527

```

&lt;210&gt; 439

&lt;211&gt; 1473

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 439

```

tgtgtaaaaag gttctcttga tttagaaata tcaggagtta cttatagttc taaattgggtt 60
ttgcccagggt ttgtgttttt tgctcttcca ggaattcatt ttgatgggca tgatttttatt 120
gaaattgcaa ttcaaaaggg tagtaatggt gttgtgtggt caccagatgt ggattttttac 180
agtcctaagt ttacttatat taaggtagat gactttaaca taagaaaatt tatgtctaatt 240
ttttcaaaata ttttttatga tgagccttca aaaaaattaa aagttattgg agtcactggc 300
actgacggga aaagtctctgt ttgttattat atatatcttc tttttaaaaa aaaggggtgtt 360
aaagtagggt ttatatcgac agtatttttt gatgatggga gtggaagctt gattaaaaat 420
ccttacagac aatcaactcc cgagtctacg gaaatacatt cttttttaag caccatgggt 480
aaaaatgaag ctcaatatgc aattcttgaa tctacttctc atgggcttga ccttgaaaca 540
gcaaggctta ttgatgttaa ttatttttga gttgttttta ccaatattgg acatgagcat 600
cttgaatttc atggcacaaat tcaaaattat ttgaatgtca agctgggtct ttttcggtct 660
gttagtgatg atgctgggtt tgggggttatt aatcttgatg acctttattc ttctgatttt 720
aagaatgctg ttaagaaatc ttttacttat agcttaaaaa gcagtaaagc ggattttttt 780
gttagtttta ttgatgagaa aaccgattct actagatttg aattttatca caaggggggtt 840
aaatatcttg ctaatgttag cctactgggg agttttaatg ttgagaatgt aatggctgct 900
cttatttttag tttctcaaat tttaaatata gatattcaag atattgttga taaacttaac 960
tgcattaaaaa gtcttgatgg gcgtatggat agtatttaatt tggggcaaaa ttttctgtga 1020
ataattgatt atgctcatac tcttggtgct ttttccaagc tttttcctat ttttaaaaaga 1080
tttgctacca atagattgat ttctgttttt ggctctgcag gagaaagaga tgttgaaaaa 1140
agatttttgc aagggcaaat cgcagatatt tattctgatt taataatact ttgcgatgaa 1200
gatccaagag gcgagaatag tatgtgtata attaaagaca ttgcaaaagg aattgtaaat 1260
aaagttgaaa ataaggattt attttttatt gctgatagaa agcaggctat tgaaaaagca 1320
ataagtcctt caaaagcagg agattttggtt gttgctttgg gcaaagggtca tgaaagttca 1380
ataattttata aaaatagaga agtttttttg aatgaacaag aggtagttaa aaatgctatt 1440
ttaagtttag aaaaatcaga aaaggagaag tga 1473

```

&lt;210&gt; 440

&lt;211&gt; 238

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 440

```

Met Val Phe Arg Thr Tyr Lys His Leu Glu Leu Ile Met Leu Pro Met
  1             5             10             15

```

```

Leu Met Leu Ser Cys Ala Phe Phe Lys Lys Pro Gln Ser Val His Gln
  20             25             30

```

```

Asp Ser Asn Thr Gly Lys Pro Ile Ser Asp Glu Lys Leu His Leu Ile
  35             40             45

```

```

Ser Gly Lys Ile Ser Asn Lys Lys Leu Pro Ile Ile Asn Ser Asn His
  50             55             60

```

```

Asp Val Thr Trp Ile Lys Thr Lys Ala Met Thr Ile Leu Gly Glu Asp
  65             70             75             80

```

Gly Lys Glu Ile Pro Glu Phe Lys Asn Lys Phe Gly Tyr Ser Tyr Ile  
                             85                            90                            95  
 Ile Ser Pro Val Lys Met Asp Gly Lys Tyr Ser Tyr Tyr Ala Ser Leu  
                             100                            105                            110  
 Leu Ile Leu Phe Glu Thr Thr Lys Asn Gly Asp Asp Glu Tyr Glu Ile  
                             115                            120                            125  
 Glu Asp Val Lys Phe Val Thr Ala Gly Ser Thr Leu Glu Leu Lys Asn  
                             130                            135                            140  
 Ser Leu Leu Ala Val Glu Asn Ser Gln Glu Glu Gly Tyr Val Thr Ala  
                             145                            150                            155                            160  
 Tyr Pro Phe Gly Ile Leu Met Ser Asp Glu Ile Lys Asn Ala Phe Lys  
                             165                            170                            175  
 Leu Thr Tyr Lys Asn Gly His Trp Asn Tyr Met Leu Ala Asp Leu Thr  
                             180                            185                            190  
 Val Lys Asn Lys Leu Thr Gln Glu Thr Lys Ile Tyr Lys Ile Ser Leu  
                             195                            200                            205  
 Asn Ser Lys Leu Ile Ile Glu Phe Leu Lys Glu Val Leu Lys Glu Asn  
                             210                            215                            220  
 Ser Ile Leu Lys Asp Ile Ala Gly Asp Leu Phe Glu Asp Ile  
                             225                            230                            235  
 <210> 441  
 <211> 218  
 <212> PRT  
 <213> Homo sapiens  
 <400> 441  
 Cys Ala Phe Phe Lys Lys Pro Gln Ser Val His Gln Asp Ser Asn Thr  
                             1                            5                            10                            15  
 Gly Lys Pro Ile Ser Asp Glu Lys Leu His Leu Ile Ser Gly Lys Ile  
                             20                            25                            30  
 Ser Asn Lys Lys Leu Pro Ile Ile Asn Ser Asn His Asp Val Thr Trp  
                             35                            40                            45  
 Ile Lys Thr Lys Ala Met Thr Ile Leu Gly Glu Asp Gly Lys Glu Ile  
                             50                            55                            60  
 Pro Glu Phe Lys Asn Lys Phe Gly Tyr Ser Tyr Ile Ile Ser Pro Val  
                             65                            70                            75                            80  
 Lys Met Asp Gly Lys Tyr Ser Tyr Tyr Ala Ser Leu Leu Ile Leu Phe  
                             85                            90                            95  
 Glu Thr Thr Lys Asn Gly Asp Asp Glu Tyr Glu Ile Glu Asp Val Lys  
                             100                            105                            110  
 Phe Val Thr Ala Gly Ser Thr Leu Glu Leu Lys Asn Ser Leu Leu Ala

115 120 125

Val Glu Asn Ser Gln Glu Glu Gly Tyr Val Thr Ala Tyr Pro Phe Gly  
130 135 140

Ile Leu Met Ser Asp Glu Ile Lys Asn Ala Phe Lys Leu Thr Tyr Lys  
145 150 155 160

Asn Gly His Trp Asn Tyr Met Leu Ala Asp Leu Thr Val Lys Asn Lys  
165 170 175

Leu Thr Gln Glu Thr Lys Ile Tyr Lys Ile Ser Leu Asn Ser Lys Leu  
180 185 190

Ile Ile Glu Phe Leu Lys Glu Val Leu Lys Glu Asn Ser Ile Leu Lys  
195 200 205

Asp Ile Ala Gly Asp Leu Phe Glu Asp Ile  
210 215

<210> 442  
<211> 717  
<212> DNA  
<213> Homo sapiens

<400> 442  
atggtatttta gaacatataa acatttggaa ctaataatgc tgcccatggt aatgctgagt 60  
tgcgctttttt ttaagaaacc acaatctgta catcaagaca gcaatactgg caaaccaata 120  
agcgatgaaa aattacattt aatatcaggc aaaatttcaa ataaaaaatt gccaatcata 180  
aatagtaatc atgacgtaac ttggataaaa acaaaggcaa tgacaatctt aggcgaagat 240  
ggaaaagaaa taccagaatt taaaaacaaa tttggatatt cttatataat atctcctgta 300  
aaaatggatg gaaaatatag ttattacgcg tcattattaa tactttttga aacaactaaa 360  
aatggagatg atgaatatga aattgaagat gttaaatttg taacagctgg ttccacccta 420  
gaacttaaaa attctctttt agctgttgaa aattcacaag aagaaggata tgttactgca 480  
taccattttg gaatattgat gactgacgag attaaaaatg ctttttaaatt aacatataaa 540  
aatggtcatt ggaattatat gcttgcagat ttaactgtca aaaataaact tactcaagaa 600  
actaaaattt ataaaatttc tcttaattca aaattaatta ttgaattttt aaaagaagtg 660  
ctaaaagaaa attctatatt aaaagacata gctggagatt tatttgaaga tatataa 717

<210> 443  
<211> 657  
<212> DNA  
<213> Homo sapiens

<400> 443  
tgcgctttttt ttaagaaacc acaatctgta catcaagaca gcaatactgg caaaccaata 60  
agcgatgaaa aattacattt aatatcaggc aaaatttcaa ataaaaaatt gccaatcata 120  
aatagtaatc atgacgtaac ttggataaaa acaaaggcaa tgacaatctt aggcgaagat 180  
ggaaaagaaa taccagaatt taaaaacaaa tttggatatt cttatataat atctcctgta 240  
aaaatggatg gaaaatatag ttattacgcg tcattattaa tactttttga aacaactaaa 300  
aatggagatg atgaatatga aattgaagat gttaaatttg taacagctgg ttccacccta 360  
gaacttaaaa attctctttt agctgttgaa aattcacaag aagaaggata tgttactgca 420  
taccattttg gaatattgat gactgacgag attaaaaatg ctttttaaatt aacatataaa 480  
aatggtcatt ggaattatat gcttgcagat ttaactgtca aaaataaact tactcaagaa 540  
actaaaattt ataaaatttc tcttaattca aaattaatta ttgaattttt aaaagaagtg 600  
ctaaaagaaa attctatatt aaaagacata gctggagatt tatttgaaga tatataa 657

<210> 444

<211> 126  
 <212> PRT  
 <213> Homo sapiens

<400> 444

```

Met Leu Arg Lys Leu Lys Asp Ile Ser Lys Ile Val Leu Val Thr Asp
 1           5           10           15

Gly Leu Thr Pro Asn Cys Gln Thr Cys Gly Lys Leu Ile Ala Asn Gly
      20           25           30

Asp Glu Val Tyr Ile Ala Glu Asp Gly Leu Phe His Ser Val Lys Ser
      35           40           45

Asn Thr Ile Ala Gly Ser Thr Leu Thr Met Ile Gln Gly Leu Lys Asn
      50           55           60

Leu Ile Glu Phe Gly Phe Ser Leu Ser Asp Ala Val Gln Ala Ser Ser
      65           70           75           80

Tyr Asn Pro Thr Arg Ile Leu Asn Ile Asp Lys Lys Gly Leu Ile Cys
      85           90           95

His Gly Tyr Asp Ala Asn Leu Asn Val Leu Asp Lys Asp Phe Asn Leu
      100           105           110

Lys Leu Thr Met Ile Glu Ser Lys Ile Ile Phe Asn Asn Leu
      115           120           125

```

<210> 445  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 445

```

Cys Gln Thr Cys Gly Lys Leu Ile Ala Asn Gly Asp Glu Val Tyr Ile
 1           5           10           15

Ala Glu Asp Gly Leu Phe His Ser Val Lys Ser Asn Thr Ile Ala Gly
      20           25           30

Ser Thr Leu Thr Met Ile Gln Gly Leu Lys Asn Leu Ile Glu Phe Gly
      35           40           45

Phe Ser Leu Ser Asp Ala Val Gln Ala Ser Ser Tyr Asn Pro Thr Arg
      50           55           60

Ile Leu Asn Ile Asp Lys Lys Gly Leu Ile Cys His Gly Tyr Asp Ala
      65           70           75           80

Asn Leu Asn Val Leu Asp Lys Asp Phe Asn Leu Lys Leu Thr Met Ile
      85           90           95

Glu Ser Lys Ile Ile Phe Asn Asn Leu
      100           105

```

<210> 446  
 <211> 381

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 446

```

atgcttagaa agcttaaaga tataagtaaa atagtccttg taactgacgg acttactcgg 60
aattgtcaaaa cttgtggaaa actaattgca aacggagacg aagtttatat tgcagaagat 120
ggattattcc atagcgtgaa aagcaacaca atagctggat caacactcac aatgatacaa 180
ggtcttaaaa atttaataga atttggtttc agcttaagcg atgctgttca agcaagctct 240
tacaatccaa caagaattct caatattgat aaaaagggct taatatgtca tggatatgat 300
gcaaacctca atgtcctaga taaagatttt aatctaaagt taacaatgat agaatctaaa 360
ataattttta acaatctcta a

```

&lt;210&gt; 447

&lt;211&gt; 318

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 447

```

tgtcaaactt gtggaaaact aattgcaaac ggagacgaag tttatattgc agaagatgga 60
ttattccata gcgtgaaaag caacacaata gctggatcaa cactcacaat gatacaaggt 120
cttaaaaatt taatagaatt tggtttcagc ttaagcgatg ctgttcaagc aagctcttac 180
aatccaacaa gaattctcaa tattgataaa aagggcttaa tatgtcatgg atatgatgca 240
aacctcaatg tcttagataa agattttaat cttaaagttaa caatgataga atctaaaata 300
atttttaaca atctctaa

```

&lt;210&gt; 448

&lt;211&gt; 230

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 448

```

Met Lys Ile Leu Trp Leu Ile Ile Leu Val Asn Leu Phe Leu Ser Cys
  1             5             10             15

Gly Asn Glu Ser Lys Glu Lys Ser Asn Leu Gly Leu Arg Leu Arg Glu
      20             25             30

Leu Glu Ile Ser Gly Gly Gly Ser Glu Ser Lys Ile Glu Val Tyr Lys
      35             40             45

Glu Phe Ile Glu Lys Glu Asp Lys Asn Ile Leu Lys Ile Val Asn Ser
      50             55             60

Ile Asp Lys Lys Ala Arg Phe Phe Asn Leu Ile Gly Leu Glu Phe Phe
      65             70             75             80

Lys Leu Gly Gln Tyr Gly Pro Ala Ile Glu Tyr Phe Ala Lys Asn Leu
      85             90             95

Glu Ile Asn Pro Asn Asn Tyr Leu Ser His Phe Tyr Ile Gly Val Ala
      100            105            110

Ser Tyr Asn Leu Ala Lys Asn Leu Arg Val Lys Asp Glu Val Glu Lys
      115            120            125

Tyr Ile Ile Leu Ala Glu Asn Ser Phe Leu Lys Ser Leu Ser Ile Arg
      130            135            140

```

Asp Asp Phe Lys Asp Ser Leu Phe Ala Ile Ser Asn Met Tyr Val Tyr  
145 150 155 160

Asp Leu Asp Lys Gln Leu Glu Ala Lys Asn Tyr Leu Asn Lys Leu Gly  
165 170 175

Asp Met Gly Glu Asp Tyr Phe Glu Phe Leu Met Leu Arg Gly Ala Asn  
180 185 190

Tyr Tyr Ser Leu Gly Asp Leu Gly Asn Ala Ile Leu Phe Tyr Asp Lys  
195 200 205

Ala Ser Lys Lys Ala Ser Thr Glu Glu Gln Lys Glu Gly Val Ser Arg  
210 215 220

Ile Met Ser Asn Leu Lys  
225 230

<210> 449

<211> 215

<212> PRT

<213> Homo sapiens

<400> 449

Cys Gly Asn Glu Ser Lys Glu Lys Ser Asn Leu Gly Leu Arg Leu Arg  
1 5 10 15

Glu Leu Glu Ile Ser Gly Gly Gly Ser Glu Ser Lys Ile Glu Val Tyr  
20 25 30

Lys Glu Phe Ile Glu Lys Glu Asp Lys Asn Ile Leu Lys Ile Val Asn  
35 40 45

Ser Ile Asp Lys Lys Ala Arg Phe Phe Asn Leu Ile Gly Leu Glu Phe  
50 55 60

Phe Lys Leu Gly Gln Tyr Gly Pro Ala Ile Glu Tyr Phe Ala Lys Asn  
65 70 75 80

Leu Glu Ile Asn Pro Asn Asn Tyr Leu Ser His Phe Tyr Ile Gly Val  
85 90 95

Ala Ser Tyr Asn Leu Ala Lys Asn Leu Arg Val Lys Asp Glu Val Glu  
100 105 110

Lys Tyr Ile Ile Leu Ala Glu Asn Ser Phe Leu Lys Ser Leu Ser Ile  
115 120 125

Arg Asp Asp Phe Lys Asp Ser Leu Phe Ala Ile Ser Asn Met Tyr Val  
130 135 140

Tyr Asp Leu Asp Lys Gln Leu Glu Ala Lys Asn Tyr Leu Asn Lys Leu  
145 150 155 160

Gly Asp Met Gly Glu Asp Tyr Phe Glu Phe Leu Met Leu Arg Gly Ala  
165 170 175

Asn Tyr Tyr Ser Leu Gly Asp Leu Gly Asn Ala Ile Leu Phe Tyr Asp

180 185 190

Lys Ala Ser Lys Lys Ala Ser Thr Glu Glu Gln Lys Glu Gly Val Ser  
195 200 205

Arg Ile Met Ser Asn Leu Lys  
210 215

<210> 450  
<211> 693  
<212> DNA  
<213> Homo sapiens

<400> 450  
atgaaaattt tgtgggtaat aattcttggt aatttatttt tatcttggtg caatgaatct 60  
aaagaaaaat caaatcttgg tcttagatta agagaattgg aaatttcagg tgggtggatct 120  
gaatctaaga ttgaagttta taaagaattt attgaaaaag aagataagaa tatttttaaag 180  
atagttaatt ccattgataa gaaagccaga ttttttaatt taattggtct tgaatttttt 240  
aagcttggtc agtacggacc tgctattgaa tattttgcta aaaatttaga aatcaatccc 300  
aataattatt tatctcattt ttatataggt gttgcttctt ataatttagc taaaaattta 360  
agagtaaaaag atgaagttga aaaatacata attcttgctg aaaattcctt tttaaaatca 420  
ctttcaatta gagatgattt taaagattct ctttttgcca tttctaatat gtacgtatat 480  
gatcttgata aacaacttga agctaaaaat tatttaaaata aacttggtga tatgggtgag 540  
gactattttg agtttttaat gttaagaggt gcaaattatt attcgctggg cgatcttggg 600  
aatgctatat tgttttatga taaagctagt aaaaaggctt caactgaaga gcaaaaagaa 660  
gggtgtttcta ggatcatgag taatttgaag taa 693

<210> 451  
<211> 648  
<212> DNA  
<213> Homo sapiens

<400> 451  
tgtggcaatg aatctaaga aaaatcaaat cttggtctta gattaagaga attggaaatt 60  
tcaggtggtg gatctgaatc taagattgaa gtttataaag aatttattga aaaagaagat 120  
aagaatattt taaagatagt taattccatt gataagaaag ccagattttt taattttaatt 180  
ggctttgaat tttttaagct tggtcagtag ggacctgcta ttgaatattt tgctaaaaat 240  
ttagaaatca atcccaataa ttatttatct catttttata taggtgttgc ttcttataat 300  
ttagctaaaa atttaagagt aaaagatgaa gttgaaaaat acataattct tgctgaaaaat 360  
tcttttttaa aatcactttc aattagagat gattttaaag attctctttt tgccatttct 420  
aatatgtacg tatatgatct tgataaacia cttgaagcta aaaattattt aaataaactt 480  
ggatgatagg gtgaggacta ttttgagttt ttaatgttaa gaggtgcaaa ttattattcg 540  
ctgggcgacg ttggtaatgc tatattgttt tatgataaag ctagtataaa ggcttcaact 600  
gaagagcaaa aagaagggtg ttctaggatc atgagtaatt tgaagtaa 648

<210> 452  
<211> 266  
<212> PRT  
<213> Homo sapiens

<400> 452  
Met Asn Asn Cys Leu Ile Lys Phe Phe Ile Phe Leu Leu Val Phe Ser  
1 5 10 15

Asn Ser Tyr Val Ala Phe Ser Lys Asn Val Asn Val Leu Ile Val Thr  
20 25 30

Ala Met Asp Ser Glu Phe Asp Gln Ile Asn Lys Leu Met Ser Asn Lys

35                      40                      45  
 Glu Glu Ile Val Leu Lys Glu Tyr Gly Leu Asn Lys Lys Ile Leu Lys  
     50                      55                      60  
 Gly Lys Leu Ser Asn Arg Asn Val Met Val Ile Ile Cys Gly Val Gly  
     65                      70                      75                      80  
 Lys Val Asn Ala Gly Val Trp Thr Ser Tyr Ile Leu Ser Lys Tyr Asn  
                     85                      90                      95  
 Ile Ser His Val Ile Asn Ser Gly Val Ala Gly Gly Val Val Ser Ala  
                     100                      105                      110  
 Lys Tyr Lys Asp Ile Lys Val Gly Asp Val Val Val Ser Ser Glu Val  
     115                      120                      125  
 Ala Tyr His Asp Val Asp Leu Thr Lys Phe Gly Tyr Lys Val Gly Gln  
     130                      135                      140  
 Leu Thr Gly Gly Leu Pro Gln Lys Phe Asn Ala Asn Lys Asn Leu Ile  
     145                      150                      155                      160  
 Lys Asn Ala Ile Glu Ala Ile Lys Ser Lys Val Gly Gly Ser Asn Ala  
                     165                      170                      175  
 Tyr Ser Gly Leu Ile Val Ser Gly Asp Gln Phe Ile Asp Pro Thr Tyr  
     180                      185                      190  
 Ile Asn Lys Ile Ile Gly Asn Phe Lys Asp Val Ile Ala Val Glu Met  
     195                      200                      205  
 Glu Gly Ala Ala Ile Gly His Val Ser His Met Phe Asn Ile Pro Phe  
     210                      215                      220  
 Ile Val Ile Arg Ser Ile Ser Asp Ile Val Asn Lys Glu Gly Asn Glu  
     225                      230                      235                      240  
 Val Glu Tyr Ser Lys Phe Ser Lys Ile Ala Ala Phe Asn Ser Ala Lys  
                     245                      250                      255  
 Val Val Gln Glu Ile Leu Arg Lys Leu Glx  
                     260                      265  
  
 <210> 453  
 <211> 243  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 453  
 Lys Asn Val Asn Val Leu Ile Val Thr Ala Met Asp Ser Glu Phe Asp  
     1                      5                      10                      15  
 Gln Ile Asn Lys Leu Met Ser Asn Lys Glu Glu Ile Val Leu Lys Glu  
                     20                      25                      30  
 Tyr Gly Leu Asn Lys Lys Ile Leu Lys Gly Lys Leu Ser Asn Arg Asn  
     35                      40                      45



Val Met Val Ile Ile Cys Gly Val Gly Lys Val Asn Ala Gly Val Trp  
 50 55 60

Thr Ser Tyr Ile Leu Ser Lys Tyr Asn Ile Ser His Val Ile Asn Ser  
 65 70 75 80

Gly Val Ala Gly Gly Val Val Ser Ala Lys Tyr Lys Asp Ile Lys Val  
 85 90 95

Gly Asp Val Val Val Ser Ser Glu Val Ala Tyr His Asp Val Asp Leu  
 100 105 110

Thr Lys Phe Gly Tyr Lys Val Gly Gln Leu Thr Gly Gly Leu Pro Gln  
 115 120 125

Lys Phe Asn Ala Asn Lys Asn Leu Ile Lys Asn Ala Ile Glu Ala Ile  
 130 135 140

Lys Ser Lys Val Gly Gly Ser Asn Ala Tyr Ser Gly Leu Ile Val Ser  
 145 150 155 160

Gly Asp Gln Phe Ile Asp Pro Thr Tyr Ile Asn Lys Ile Ile Gly Asn  
 165 170 175

Phe Lys Asp Val Ile Ala Val Glu Met Glu Gly Ala Ala Ile Gly His  
 180 185 190

Val Ser His Met Phe Asn Ile Pro Phe Ile Val Ile Arg Ser Ile Ser  
 195 200 205

Asp Ile Val Asn Lys Glu Gly Asn Glu Val Glu Tyr Ser Lys Phe Ser  
 210 215 220

Lys Ile Ala Ala Phe Asn Ser Ala Lys Val Val Gln Glu Ile Leu Arg  
 225 230 235 240

Lys Leu Glx

<210> 454

<211> 798

<212> DNA

<213> Homo sapiens

<400> 454

atgaataatt gtttaataaa gttttttatt tttttattag ttttttcaaa cagttatggt 60  
 gcttttttcta aaaatgtcaa tgtttttaata gtaactgcta tggactctga gtttgatcag 120  
 ataaataagc ttatgtctaa taaggaagaa atagttctta aggagtatgg tcttaataaa 180  
 aagattttta aggggaagtt gtctaatacgc aatgttatgg ttattatttg tgggggttgg 240  
 aagggttaatg ctggtgtgtg gactagctac attttgtcaa aatacaacat aagtcatgtc 300  
 attaatcttg gcgttgctgg tggcgttggt agtgctaaat acaaagatat taaagtggga 360  
 gatgtggttg tgtcttcaga ggttgcatat catgatgttg atttgactaa atttggtatc 420  
 aaggtaggac agcttacagg aggattgcct caaaaattta atgccaataa aaattttaatt 480  
 aagaatgccat tagaggccat taaatcaaag gttggagggt ctaatgcata ttcaggatta 540  
 atagtttcag gagatcagtt tattgatcca acttatatta acaaaattat agggaaacttt 600  
 aaagatgtaa tagctgttga gatggaaggt gcagcaatag ggcatgtttc tcatatgttt 660  
 aatatacctt ttatagttat taggtcaata tctgacattg taaataaaga aggggaatgag 720

gttgaatata gttaaattttc taaaatagct gcttttcaatt cagccaaagt tgtacaagaa 780  
 attttaagaa aacttttaa 798

<210> 455

<211> 729

<212> DNA

<213> Homo sapiens

<400> 455

aaaaatgtca atgttttaaat agtaactgct atggactctg agtttgatca gataaataag 60  
 cttatgtcta ataaggaaga aatagttcctt aaggagtatg gtcttaataa aaagatttta 120  
 aaggggaagt tgtctaatacg caatgttatg gttattatatt gtggggttg taagggtta 180  
 gctgggtgtg ggactagcta cattttgtca aaatacaaca taagtcattg cattaattct 240  
 ggcgttgctg gtggcgttgt tagtgctaaa tacaaagata tttaaagtgagg agatgtggg 300  
 gtgtcttcag aggttgcata tcatgatgtt gatttgacta aatttgagata caaggtagga 360  
 cagcttacag gaggattgcc tcaaaaattt aatgccata aaaatttaaat taagaatgcc 420  
 atagaggcca ttaaatcaaa gggtggaggt tctaatagcat attcaggatt aatagtttca 480  
 ggagatcagt ttattgatcc aacttatatt aacaaaatta taggaaactt taaagatgta 540  
 atagctgttg agatggaagg tgcagcaata gggcatgttt ctcatatgtt taatatacct 600  
 tttatagtta ttaggtcaat atctgacatt gtaaataaag aagggaatga gggtgaatat 660  
 agtaaatattt ctaaaatagc tgctttcaat tcagccaaag ttgtacaaga aattttaaga 720  
 aaacttttaa 729

<210> 456

<211> 124

<212> PRT

<213> Homo sapiens

<400> 456

Met Asn Thr Lys Thr Leu Tyr Leu Ile Ser Leu Ile Leu Leu Ala Cys  
 1 5 10 15

Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro Lys  
 20 25 30

Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys Asp  
 35 40 45

Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp Tyr  
 50 55 60

Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu Lys  
 65 70 75 80

Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile Leu  
 85 90 95

Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile Asn  
 100 105 110

Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys Glx  
 115 120

<210> 457

<211> 109

<212> PRT

<213> Homo sapiens

&lt;400&gt; 457

Cys Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro  
 1 5 10 15

Lys Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys  
 20 25 30

Asp Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp  
 35 40 45

Tyr Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu  
 50 55 60

Lys Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile  
 65 70 75 80

Leu Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile  
 85 90 95

Asn Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys Glx  
 100 105

&lt;210&gt; 458

&lt;211&gt; 372

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 458

atgaatacaa aaacattata ttaatatcc ttaattcttt tagcttgcaa taaaaataac 60  
 aaaattcctc tcattcaaaa attagatttg cccaaaagca gcattcttgg ctttagcaat 120  
 aaaatgggca taataataaa agattatgct tttcttagta aaagcactaa gaaaaatagc 180  
 gaattggatt atgattacgc aattctactc agaaaagacg aagtcgtaaa aattgaaaaa 240  
 aactagaaaa aaacagagcg ctatggaatt gaaggaaatt ggatcctagt caattacaag 300  
 ggaactaaaa gatacatctt tagcaaaagac atcaatatag tcaacaattt aataattgat 360  
 cattctaaat ag 372

&lt;210&gt; 459

&lt;211&gt; 327

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 459

tgcaataaaaa ataacaaaat tcctctcatt caaaaattag atttgcccaa aagcagcatt 60  
 cttggcttta gcaataaaaat gggcataata ataaaagatt atgcttttct tagtaaaaagc 120  
 actaagaaaa atagcgaatt ggattatgat tacgcaattc tactcagaaa agacgaagtc 180  
 gtaaaaattg aaaaaacact agaaaaaaca gagcgctatg gaattgaagg aaattggatc 240  
 ctagtcaatt acaagggaac taaaagatac atcttttagca aagacatcaa tatagtcaac 300  
 aatttaataa ttgatcattc taaatag 327

&lt;210&gt; 460

&lt;211&gt; 263

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 460

Met Lys Ser Ile Tyr Ala Leu Leu Phe Leu Phe Ile Asn Leu Ser Leu  
 1 5 10 15

Leu Ala Asn Asn Ile Ser Lys Lys Asp Leu Glu Val Leu Leu Lys Ile  
                     20                    25                    30  
 Ala Gln Ala Met Asn Lys Glu Cys Lys Asn Phe Ile Glu Lys Asn Pro  
                     35                    40                    45  
 Ile Gln Phe Leu Lys Glu Ile Lys Pro Leu Val Asp Ala Glu Lys Asn  
                     50                    55                    60  
 Asn Leu Leu Thr Leu Ile Asn Lys Lys Ile Pro Ile Pro Glu Asn Tyr  
                     65                    70                    75                    80  
 Lys Ile Pro Asp Leu Val Asn Ile Asp Asp Phe Glu Asp Leu Lys Asn  
                     85                    90                    95  
 Leu Gly Ala Lys Thr Ile Lys Val Arg Lys Ile Leu Ile Glu Asp Leu  
                     100                    105                    110  
 Ile Arg Leu Ile Lys Asp Ala Lys Lys Phe Gly Ile Glu Ile Lys Ile  
                     115                    120                    125  
 Lys Ser Ala Tyr Arg Thr Gln Glu Tyr Gln Lys Phe Leu Phe Asp Tyr  
                     130                    135                    140  
 Asn Val Lys Thr Tyr Gly Arg Lys Val Ala Glu Thr Gln Ser Ala Ile  
                     145                    150                    155                    160  
 Pro Gly His Ser Gln His His Met Gly Thr Ala Ile Asp Phe Ile Asn  
                     165                    170                    175  
 Ile Asp Asp Asn Leu Leu Asn Thr Lys Glu Gly Lys Trp Leu Tyr Glu  
                     180                    185                    190  
 Asn Ser Leu Lys Tyr Gly Phe Ser Val Ser Tyr Pro Lys Gly Tyr Glu  
                     195                    200                    205  
 Thr Asp Thr Gly Tyr Lys Ala Glu Pro Trp His Tyr Leu Tyr Ile Gly  
                     210                    215                    220  
 Pro Lys Pro Cys Phe Ile Gln Lys Lys Tyr Phe Asn Asn Leu Gln His  
                     225                    230                    235                    240  
 Lys Leu Leu Glu Phe Trp Asn Gln Asn Lys Thr Asn Leu Ile Asn Leu  
                     245                    250                    255  
 Ile Glu Lys Tyr Ala Asn Glx  
                     260

&lt;210&gt; 461

&lt;211&gt; 245

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 461

Asn Asn Ile Ser Lys Lys Asp Leu Glu Val Leu Leu Lys Ile Ala Gln  
                     1                    5                    10                    15

Ala Met Asn Lys Glu Cys Lys Asn Phe Ile Glu Lys Asn Pro Ile Gln

20 25 30  
 Phe Leu Lys Glu Ile Lys Pro Leu Val Asp Ala Glu Lys Asn Asn Leu  
 35 40 45  
 Leu Thr Leu Ile Asn Lys Lys Ile Pro Ile Pro Glu Asn Tyr Lys Ile  
 50 55 60  
 Pro Asp Leu Val Asn Ile Asp Asp Phe Glu Asp Leu Lys Asn Leu Gly  
 65 70 75 80  
 Ala Lys Thr Ile Lys Val Arg Lys Ile Leu Ile Glu Asp Leu Ile Arg  
 85 90 95  
 Leu Ile Lys Asp Ala Lys Lys Phe Gly Ile Glu Ile Lys Ile Lys Ser  
 100 105 110  
 Ala Tyr Arg Thr Gln Glu Tyr Gln Lys Phe Leu Phe Asp Tyr Asn Val  
 115 120 125  
 Lys Thr Tyr Gly Arg Lys Val Ala Glu Thr Gln Ser Ala Ile Pro Gly  
 130 135 140  
 His Ser Gln His His Met Gly Thr Ala Ile Asp Phe Ile Asn Ile Asp  
 145 150 155 160  
 Asp Asn Leu Leu Asn Thr Lys Glu Gly Lys Trp Leu Tyr Glu Asn Ser  
 165 170 175  
 Leu Lys Tyr Gly Phe Ser Val Ser Tyr Pro Lys Gly Tyr Glu Thr Asp  
 180 185 190  
 Thr Gly Tyr Lys Ala Glu Pro Trp His Tyr Leu Tyr Ile Gly Pro Lys  
 195 200 205  
 Pro Cys Phe Ile Gln Lys Lys Tyr Phe Asn Asn Leu Gln His Lys Leu  
 210 215 220  
 Leu Glu Phe Trp Asn Gln Asn Lys Thr Asn Leu Ile Asn Leu Ile Glu  
 225 230 235 240  
 Lys Tyr Ala Asn Glx  
 245

&lt;210&gt; 462

&lt;211&gt; 789

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 462

atgaaatcaa tttatgcttt attatttcta tttattaatt tatctttggt ggctaacaac 60  
 atttcaaaaa aagatttaga agtactgcta aagattgccc aagcaatgaa taaggaatgc 120  
 aaaaatttta ttgaaaaaaa tcctattcag ttcttaaaag aaataaaacc cttagtagat 180  
 gcagaaaaaa ataacctctt aactctaata aataaaaaaa taccaattcc tgaaaattat 240  
 aaaatacctg atctggtaaa tattgatgat ttgaagatc ttaaaaatct tggagcaaag 300  
 actattaaag taagaaaaat attaatcgaa gatttaattc gactaataaa agatgcaaaa 360  
 aaatttggga ttgaaattaa aatcaaatct gcttacagaa cgcaagaata tcaaaaattt 420  
 ttatttgatt acaatgtcaa aacttatggc agaaaagttg cagaaacca atcagcaatt 480

```

ccaggccatt ctcaacatca tatgggaaca gcaatagatt ttataaatat agatgataat 540
ttactaaaca caaaagaagg aaaatggctt tatgaaaact ctctaaaata cggattttcc 600
gtttcatacc caaaaggata tgaaacggac actggatata aagcagagcc ttggcactac 660
ttatacatag gacctaagcc atgctttatt cagaaaaaat attttaataa ttacaacat 720
aagcttcttg aattttggaa ccagaacaaa acaaatctta ttaaccta at tgaaaaatat 780
gcaaaactaa

```

&lt;210&gt; 463

&lt;211&gt; 735

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 463

```

aacaacatct caaaaaaaga tttagaagta ctgctaaaga ttgccaagc aatgaataag 60
gaatgcaaaa atttttattga aaaaaatcct attcagttct taaaagaaat aaaaccctta 120
gtagatgcag aaaaaaataa cctcttaact ctaataaata aaaaaatacc aattcctgaa 180
aattataaaa tacctgatct ggtaaataatt gatgattttg aagatcttaa aaatcttgga 240
gcaaagacta ttaaagtaag aaaaatatta atcgaagatt taattcgact aataaaagat 300
gcaaaaaaat ttgggattga aattaaaatc aaatctgctt acagaacgca agaatatcaa 360
aaatttttat ttgattacaa tgtcaaaact tatggcagaa aagttgcaga aacccaatca 420
gcaattccag gccattctca acatcatatg ggaacagcaa tagattttat aaatatagat 480
gataatttac taaacacaaa agaaggaaaa tggctttatg aaaactctct aaaatacgga 540
ttttccgttt cataccctaa aggatatgaa acggacactg gatataaagc agagccttgg 600
cactacttat acataggacc taagccatgc tttattcaga aaaaatattt taataattta 660
caacataagc ttcttgaatt ttggaaccag aacaaaacaa atcttattaa cctaattgaa 720
aaatatgcaa actaa

```

&lt;210&gt; 464

&lt;211&gt; 182

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 464

```

Met Leu Tyr Leu Gly Asp Asn Lys Ala Met Arg Thr Lys Ile Ile Ile
  1           5           10           15

Met Thr Ile Ile Ile Leu Leu Ala Pro Ile Ser Gly Phe Ser Asn Ser
      20           25           30

Lys Glu Ser Ala Arg Gly Lys Phe Gly Ala Gly Ile Ile Leu Pro Leu
      35           40           45

Pro Ile Ala Leu Gln Ile Asn Ile Gly Asn Phe Asp Leu Asp Ile Gly
      50           55           60

Leu Tyr Ser Gly Val Asn Asn Leu Phe Ser Asp Trp Lys Thr Leu Phe
      65           70           75           80

Ile Ala Leu Asp Tyr Ile Phe Tyr Ile Tyr Thr Phe Pro Gly Ala Ala
      85           90           95

Asn Ile Leu Asp Phe Ser Val Gly Ala Gly Gly Tyr Gly Thr Ile Trp
      100          105          110

Phe Ser Arg Phe Gly Gly Ser Lys Ser Gly Ser Gly Pro Met Ser Ile
      115          120          125

Gly Ala Arg Leu Pro Leu Ala Leu Asn Ile Ala Val Phe Arg Lys Lys

```

130 135 140

Phe Asp Ile Phe Leu Arg Ile Ala Pro Gly Leu Gly Met Asn Val Trp  
 145 150 155 160

Ser Asn Gly Val Gly Phe Arg Trp Glu Val Phe Ala Gly Leu Gly Leu  
 165 170 175

Arg Phe Trp Phe Thr Glx  
 180

<210> 465  
 <211> 160  
 <212> PRT  
 <213> Homo sapiens

<400> 465

Leu Ala Pro Ile Ser Gly Phe Ser Asn Ser Lys Glu Ser Ala Arg Gly  
 1 5 10 15

Lys Phe Gly Ala Gly Ile Ile Leu Pro Leu Pro Ile Ala Leu Gln Ile  
 20 25 30

Asn Ile Gly Asn Phe Asp Leu Asp Ile Gly Leu Tyr Ser Gly Val Asn  
 35 40 45

Asn Leu Phe Ser Asp Trp Lys Thr Leu Phe Ile Ala Leu Asp Tyr Ile  
 50 55 60

Phe Tyr Ile Tyr Thr Phe Pro Gly Ala Ala Asn Ile Leu Asp Phe Ser  
 65 70 75 80

Val Gly Ala Gly Gly Tyr Gly Thr Ile Trp Phe Ser Arg Phe Gly Gly  
 85 90 95

Ser Lys Ser Gly Ser Gly Pro Met Ser Ile Gly Ala Arg Leu Pro Leu  
 100 105 110

Ala Leu Asn Ile Ala Val Phe Arg Lys Lys Phe Asp Ile Phe Leu Arg  
 115 120 125

Ile Ala Pro Gly Leu Gly Met Asn Val Trp Ser Asn Gly Val Gly Phe  
 130 135 140

Arg Trp Glu Val Phe Ala Gly Leu Gly Leu Arg Phe Trp Phe Thr Glx  
 145 150 155 160

<210> 466  
 <211> 546  
 <212> DNA  
 <213> Homo sapiens

<400> 466

atgctatact taggagataa taaagcaatg agaacaaaaa taattattat gacaattatt 60  
 attttattag ccccaatctc aggatcttct aattcaaaag aatctgcaag gggtaaattt 120

```

ggagcaggaa ttatacttcc attaccaatt gctctacaga ttaatatagg aaactttgat 180
cttgacattg gtcttttacag cggagtaaatt aatttggttt cagactggaa aacattat 240
atagcattag actatatttt ctacatatat acattcccgg gagctgctaa tattttggat 300
ttttcagttg gcgcaggggg atatggaaca atatggtttt caagatttgg aggcagtaag 360
tcaggctcag gaccaatgag cattggagca agattgcctt tggccttaaa tattgcagta 420
tttaggaaga aattcgacat atttttacga atagcaccgg gacttggaat gaatgtttgg 480
agtaatggcg ttggatttag atgggaagta ttcgcaggat tgggactaag attctgggtt 540
acttaa 546

```

&lt;210&gt; 467

&lt;211&gt; 480

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 467

```

ttagcccaaa tctcaggatt ttctaattca aaagaatctg caaggggttaa atttgagca 60
ggaattatac ttccattacc aattgctcta cagattaata taggaaactt tgatcttgac 120
attggtcttt acagcggagt aaataatttg ttttcagact ggaaaacatt atttatagca 180
ttagactata ttttctacat atacacattc ccgggagctg ctaatatattt ggatttttca 240
gttggcgcag ggggatatgg aacaatatgg ttttcaagat ttggaggcag taagtcaggc 300
tcaggaccaa tgagcattgg agcaagattg cctttggcct taaatattgc agtatttagg 360
aagaaattcg acatattttt acgaatagca cccggacttg gaatgaatgt ttggagtaat 420
ggcgttggat ttagatggga agtattcgca ggattgggac taagattctg gtttacttaa 480

```

&lt;210&gt; 468

&lt;211&gt; 210

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 468

```

Met Asn Lys Thr Lys Asn Arg Ser Leu Thr Tyr Phe Ile Ile Leu Ser
  1           5           10           15

```

```

Cys Ile Ser Leu Phe Gly Ala Asn Asn Asn Thr Ile Ser Tyr Ser Ser
          20           25           30

```

```

Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly
          35           40           45

```

```

Asn Lys Ser Asp Gln Ile Asn Thr Ser Lys His Leu Asn Lys Asn Ile
          50           55           60

```

```

Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu
          65           70           75           80

```

```

Asn Ile Arg Asp Lys Lys Leu Pro Gln Lys Arg Met Asp Glu Asn Asp
          85           90           95

```

```

Leu Lys Ser Val Ile Glu Asn Tyr Glu Asn Lys Ile Lys Asn Ile Glu
          100          105          110

```

```

Lys Leu Leu Lys Thr Lys Asn Gln Lys Thr Ser Glu Asn Glu Asn Lys
          115          120          125

```

```

Lys Ile Glu Ser Ile Glu Lys Lys Ala Lys Lys Tyr Glu Ile Leu Thr
          130          135          140

```

```

Asn Lys Leu Lys Asn Glu Ile Val Glu Ile Lys Lys Leu Leu Asn Lys

```



145                      150                      155                      160  
 Lys Ile Lys Pro Lys Glu Asp Glu Asn Tyr Glu Lys Ile Asn Ile Glu  
                                  165                      170                      175  
 Asn Ile Glu Glu Glu Thr Asp Asp Asp Phe Glu Asp Asn Tyr Glu Tyr  
                                  180                      185                      190  
 Asn Asp Glu Ile Glu Glu Gln Met Arg Thr Ile Thr Leu Leu Met Lys  
                                  195                      200                      205  
 Glu Glx  
                                  210  
 <210> 469  
 <211> 194  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 469  
 Cys Ile Ser Leu Phe Gly Ala Asn Asn Asn Thr Ile Ser Tyr Ser Ser  
                                  1                      5                      10                      15  
 Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly  
                                  20                      25                      30  
 Asn Lys Ser Asp Gln Ile Asn Thr Ser Lys His Leu Asn Lys Asn Ile  
                                  35                      40                      45  
 Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu  
                                  50                      55                      60  
 Asn Ile Arg Asp Lys Lys Leu Pro Gln Lys Arg Met Asp Glu Asn Asp  
                                  65                      70                      75                      80  
 Leu Lys Ser Val Ile Glu Asn Tyr Glu Asn Lys Ile Lys Asn Ile Glu  
                                  85                      90                      95  
 Lys Leu Leu Lys Thr Lys Asn Gln Lys Thr Ser Glu Asn Glu Asn Lys  
                                  100                      105                      110  
 Lys Ile Glu Ser Ile Glu Lys Lys Ala Lys Lys Tyr Glu Ile Leu Thr  
                                  115                      120                      125  
 Asn Lys Leu Lys Asn Glu Ile Val Glu Ile Lys Lys Leu Leu Asn Lys  
                                  130                      135                      140  
 Lys Ile Lys Pro Lys Glu Asp Glu Asn Tyr Glu Lys Ile Asn Ile Glu  
                                  145                      150                      155                      160  
 Asn Ile Glu Glu Glu Thr Asp Asp Asp Phe Glu Asp Asn Tyr Glu Tyr  
                                  165                      170                      175  
 Asn Asp Glu Ile Glu Glu Gln Met Arg Thr Ile Thr Leu Leu Met Lys  
                                  180                      185                      190  
 Glu Glx

<210> 470  
 <211> 630  
 <212> DNA  
 <213> Homo sapiens

<400> 470  
 atgaataaaa caaaaaatcg aagccttacg tattttataa tactttcatg tatatcatta 60  
 tttgggggcta ataataatac aataagctac tctagcattg aaattcctct agaagactta 120  
 agtgaagaat ttaaaagtgc tgggaataaa agcgatcaaa taaatacctc aaaacattta 180  
 aacaaaaaca tagtttctta tgaagaccca aaaaagggtg aagatctaaa attgccagaa 240  
 aatataagag acaaaaaact accccaaaaa agaatggacg aaaatgatct aaaatctgta 300  
 attgaaaatt atgaaaataa aattaaaaac atagaaaagc ttttaaaaaac caaaaatcaa 360  
 aaaacatcgg aaaaatgaaaa taaaaaaata gaatcaatcg aaaaaaaagc aaaaaaatat 420  
 gaaattttta ccaataaatt aaaaaacgaa atagtagaaa taaaaaagct ccttaacaaa 480  
 aaaatcaagc ctaaaagaag tgaaaattac gaaaaaataa atattgaaaa cattgaagaa 540  
 gaaactgatg atgattttga agacaattat gaataaatg atgaaattga agaacaaatg 600  
 aggacaatta cccttctaata gaaggaataa 630

<210> 471  
 <211> 582  
 <212> DNA  
 <213> Homo sapiens

<400> 471  
 tgtatatcat tatttggggc taataataat acaataagct actctagcat tgaaattcct 60  
 ctagaagact taagtgaaga atttaaaagt tctgggaata aaagcgatca aataaatacc 120  
 tcaaaacatt taaacaaaaa catagtctct tatgaagacc caaaaaaggg taaagatcta 180  
 aaattgccag aaaatataag agacaaaaaa ctaccccaaa aaagaatgga cgaaaatgat 240  
 ctaaaatctg taattgaaaa ttatgaaaat aaaattaaaa acatagaaaa gcttttaaaa 300  
 accaaaaatc aaaaaacatc ggaaaatgaa aataaaaaaa tagaatcaat cgaaaaaaa 360  
 gcaaaaaaat atgaaatttt aaccaataaa ttaaaaaacg aaatagtaga aataaaaaag 420  
 ctctttaaca aaaaaatcaa gcctaaagaa gatgaaaatt acgaaaaaat aaatattgaa 480  
 aacattgaag aagaaactga tgatgatttt gaagacaatt atgaatataa tgatgaaatt 540  
 gaagaacaaa tgaggacaat tacccttcta atgaaggaat aa 582

<210> 472  
 <211> 553  
 <212> PRT  
 <213> Homo sapiens

<400> 472  
 Met Gln Ile Asp Gly Lys Ile Tyr Ser Ile Ile Ser Phe Pro Val Arg  
 1 5 10 15  
 Asp Ser Val Ser Thr Leu Gly Val Ile Gly Ile Leu Ile Cys Phe Asp  
 20 25 30  
 Glu Ser Leu Asp Ile Ile Glu Asn Gln Leu Tyr Ser Ser Leu Lys Phe  
 35 40 45  
 Gly Ser Lys Asn Tyr Asn Phe Phe Met Leu Asp Arg Asn Tyr Met Pro  
 50 55 60  
 Ile Phe Ser Asn Leu Asn Asn Leu Gln Ala Lys Ser Phe Ser Thr Ala  
 65 70 75 80  
 Tyr Ser Glu Asn Phe Leu Ser Lys Val Ile Ala Tyr Ala Lys Lys Asp

				85					90						95		
Ser	Ser	Ser	Ser	Gln	Tyr	Thr	Phe	Asn	Tyr	Glu	Arg	Asp	Phe	Tyr	Ser		
			100					105					110				
Leu	Asn	Phe	Val	Lys	Thr	Asp	Asp	Phe	Leu	Thr	Gln	Gly	Leu	Ile	Leu		
		115					120					125					
Asn	Val	Asn	Ser	Ile	Pro	Ile	Met	Phe	Lys	Ser	Asn	Trp	Val	Ile	Phe		
	130					135					140						
Val	Ala	Phe	Leu	Leu	Leu	Ser	Phe	Ala	Ile	Ile	Phe	Tyr	Leu	Cys	Asn		
145					150					155					160		
Thr	Phe	Val	Phe	Ser	Leu	Ile	Asn	Asp	Phe	Asn	Arg	Ile	Val	Asp	Tyr		
				165					170					175			
Gln	Lys	Ser	Lys	Ser	Asp	Pro	Phe	Ser	Leu	Glu	Ser	Pro	Leu	Glu	Val		
			180					185					190				
Lys	Tyr	Ser	Ser	Ser	Ile	Ile	Ser	Tyr	Ile	Ser	Ser	Lys	Leu	Asp	Asn		
	195						200					205					
Leu	Ser	Ser	Lys	Ser	Asn	Glu	Ser	Phe	Glu	Lys	Ile	Lys	Phe	Tyr	Ser		
	210					215						220					
Glu	Asp	Leu	Asn	Glu	Tyr	Leu	Glu	Gln	Ile	Glu	Thr	Ala	Ile	Ser	Asn		
225					230					235					240		
Thr	Glu	Ser	Ile	Asp	Ser	Ser	Ile	Leu	Val	Tyr	Glu	Gln	Leu	Arg	Asp		
				245					250					255			
Thr	Phe	Ser	Arg	Phe	Glu	Lys	Ser	Ile	Val	Asp	Ile	Leu	Lys	Gly	Phe		
			260					265					270				
Glu	Ser	Ile	Ala	Asp	Pro	Ile	Asn	Asp	His	Asn	Lys	Tyr	Ile	Ser	Glu		
		275					280					285					
Ile	Ser	Ser	Asn	Phe	Glu	Glu	Ser	Val	Ser	Phe	Phe	Tyr	Ser	Ile	Asp		
	290					295					300						
Lys	Asn	Leu	Glu	Ile	Phe	Asn	Lys	Val	Ala	Thr	Ile	Asn	Ser	Thr	Asp		
305					310					315					320		
Ile	Glu	Asn	Ile	Lys	Ser	Lys	Val	Phe	Asp	Leu	Asn	Ile	Val	Phe	Glu		
				325					330					335			
Asn	Val	Asn	Lys	Asn	Phe	Ala	Asp	Leu	Leu	Ser	Gln	Thr	Asn	Ser	Leu		
			340					345					350				
Gln	Ser	Val	Asn	Lys	Leu	Leu	Val	Ser	Ile	Ser	Ala	Gln	Thr	Asn	Met		
		355					360					365					
Leu	Ala	Met	Asn	Ala	Ala	Ile	Glu	Ala	Ala	Lys	Ala	Gly	Asp	Ala	Gly		
		370				375					380						
Lys	Ser	Phe	Ala	Val	Val	Ala	Glu	Glu	Ile	Arg	Lys	Leu	Ala	Ile	Asn		
385					390					395					400		

Ser Gly Lys Tyr Ser Lys Thr Ile Lys Asp Glu Leu Lys Thr Val Asp  
405 410 415

Ser Ile Ile Ala Val Ile Asn Ser Glu Ile Asp Thr Ile Tyr Lys Asn  
420 425 430

Phe Ile Asp Ile Gln Asp Asn Val Asp Asn Asn Phe Ser Arg His Glu  
435 440 445

Lys Val Asp Leu Thr Leu Ala Lys His Phe Lys Glu Ile Gly Glu Phe  
450 455 460

Lys Glu Arg Tyr Leu Ser His Asp Thr Lys Ile Arg Asp Ala Lys Asn  
465 470 475 480

Met Tyr Lys Glu Ile Phe Asn Asn His Tyr Phe Ile Ser Gly Lys Phe  
485 490 495

Asn Asn Phe Ser Gln Asp Leu Lys Glu Phe Lys Val Ser Lys Met Asn  
500 505 510

Leu Asp Ala Val Ser Ser Leu Gln Glu Tyr Ser Ser Leu Val Lys Ser  
515 520 525

Ser Lys Asp Lys Ile Leu Lys Thr Lys Glu Leu Ile Gln Lys Ile Asn  
530 535 540

Asp Glu Ile Lys Asp Ile Leu Phe Glx  
545 550

<210> 473

<211> 524

<212> PRT

<213> Homo sapiens

<400> 473

Cys Phe Asp Glu Ser Leu Asp Ile Ile Glu Asn Gln Leu Tyr Ser Ser  
1 5 10 15

Leu Lys Phe Gly Ser Lys Asn Tyr Asn Phe Phe Met Leu Asp Arg Asn  
20 25 30

Tyr Met Pro Ile Phe Ser Asn Leu Asn Asn Leu Gln Ala Lys Ser Phe  
35 40 45

Ser Thr Ala Tyr Ser Glu Asn Phe Leu Ser Lys Val Ile Ala Tyr Ala  
50 55 60

Lys Lys Asp Ser Ser Ser Ser Gln Tyr Thr Phe Asn Tyr Glu Arg Asp  
65 70 75 80

Phe Tyr Ser Leu Asn Phe Val Lys Thr Asp Asp Phe Leu Thr Gln Gly  
85 90 95

Leu Ile Leu Asn Val Asn Ser Ile Pro Ile Met Phe Lys Ser Asn Trp  
100 105 110

Val Ile Phe Val Ala Phe Leu Leu Leu Ser Phe Ala Ile Ile Phe Tyr  
 115 120 125  
 Leu Cys Asn Thr Phe Val Phe Ser Leu Ile Asn Asp Phe Asn Arg Ile  
 130 135 140  
 Val Asp Tyr Gln Lys Ser Lys Ser Asp Pro Phe Ser Leu Glu Ser Pro  
 145 150 155 160  
 Leu Glu Val Lys Tyr Ser Ser Ser Ile Ile Ser Tyr Ile Ser Ser Lys  
 165 170 175  
 Leu Asp Asn Leu Ser Ser Lys Ser Asn Glu Ser Phe Glu Lys Ile Lys  
 180 185 190  
 Phe Tyr Ser Glu Asp Leu Asn Glu Tyr Leu Glu Gln Ile Glu Thr Ala  
 195 200 205  
 Ile Ser Asn Thr Glu Ser Ile Asp Ser Ser Ile Leu Val Tyr Glu Gln  
 210 215 220  
 Leu Arg Asp Thr Phe Ser Arg Phe Glu Lys Ser Ile Val Asp Ile Leu  
 225 230 235 240  
 Lys Gly Phe Glu Ser Ile Ala Asp Pro Ile Asn Asp His Asn Lys Tyr  
 245 250 255  
 Ile Ser Glu Ile Ser Ser Asn Phe Glu Glu Ser Val Ser Phe Phe Tyr  
 260 265 270  
 Ser Ile Asp Lys Asn Leu Glu Ile Phe Asn Lys Val Ala Thr Ile Asn  
 275 280 285  
 Ser Thr Asp Ile Glu Asn Ile Lys Ser Lys Val Phe Asp Leu Asn Ile  
 290 295 300  
 Val Phe Glu Asn Val Asn Lys Asn Phe Ala Asp Leu Leu Ser Gln Thr  
 305 310 315 320  
 Asn Ser Leu Gln Ser Val Asn Lys Leu Leu Val Ser Ile Ser Ala Gln  
 325 330 335  
 Thr Asn Met Leu Ala Met Asn Ala Ala Ile Glu Ala Ala Lys Ala Gly  
 340 345 350  
 Asp Ala Gly Lys Ser Phe Ala Val Val Ala Glu Glu Ile Arg Lys Leu  
 355 360 365  
 Ala Ile Asn Ser Gly Lys Tyr Ser Lys Thr Ile Lys Asp Glu Leu Lys  
 370 375 380  
 Thr Val Asp Ser Ile Ile Ala Val Ile Asn Ser Glu Ile Asp Thr Ile  
 385 390 395 400  
 Tyr Lys Asn Phe Ile Asp Ile Gln Asp Asn Val Asp Asn Asn Phe Ser  
 405 410 415  
 Arg His Glu Lys Val Asp Leu Thr Leu Ala Lys His Phe Lys Glu Ile

420								425					430				
Gly	Glu	Phe	Lys	Glu	Arg	Tyr	Leu	Ser	His	Asp	Thr	Lys	Ile	Arg	Asp		
435							440	445									
Ala	Lys	Asn	Met	Tyr	Lys	Glu	Ile	Phe	Asn	Asn	His	Tyr	Phe	Ile	Ser		
450							455	460									
Gly	Lys	Phe	Asn	Asn	Phe	Ser	Gln	Asp	Leu	Lys	Glu	Phe	Lys	Val	Ser		
465						470	475								480		
Lys	Met	Asn	Leu	Asp	Ala	Val	Ser	Ser	Leu	Gln	Glu	Tyr	Ser	Ser	Leu		
485							490								495		
Val	Lys	Ser	Ser	Lys	Asp	Lys	Ile	Leu	Lys	Thr	Lys	Glu	Leu	Ile	Gln		
500							505								510		
Lys	Ile	Asn	Asp	Glu	Ile	Lys	Asp	Ile	Leu	Phe	Glx						
515							520										

```
<210> 474
<211> 1659
<212> DNA
<213> Homo sapiens
```

<400>	474						
atgcaaataag	atgggaaaat	ttattctata	ataagttttc	cagttagaga	ttctgtttca	60	
acattgggtg	tgatagggat	tttaatatgc	tttgatgagt	cgttagatat	tattgaaaat	120	
cagttgtatt	cttctcttaa	atttggtagt	aaaaattata	atttttttat	gcttgacaga	180	
aattacatgc	ccattttttc	aaaccttaat	aatcttcagg	ccaaatcttt	ttctacagct	240	
tattagtgaga	atttttttgag	taaagttata	gcttatgcta	aaaaagattc	ttctagctct	300	
cagtacactt	ttaattatga	aagagatttt	tattctttta	actttgtaaa	aaccgatgat	360	
tttttgactc	aggggcttat	tttaaattgc	aattccattc	ctattatggt	taaatacaaat	420	
tgggttatat	ttgttgcat	tttattattg	tcttttgcaa	ttatttttta	tttatgcaat	480	
actttttggt	tttcttaatt	taatgatttt	aacagaattg	ttgactatca	aaaatacaaaa	540	
agcgatcttt	ttagtcttga	atctccctta	gaggtttaag	attcttcata	tattattttct	600	
tattattagtt	caaagctaga	taatctgtct	tctaagagta	atgaatcttt	tgagaagata	660	
aaattttatt	ctgaagattt	gaatgaatat	ttggaacaaa	tagaaactgc	tatatcaaat	720	
actgagagta	tagattctag	catttttagtt	tacgaacaac	taagagatac	tttttctaga	780	
tttgaaaaat	caattgttga	tatttttaaaa	ggctttgaat	ctattgctga	tccgattaat	840	
gatcacataa	aatatatata	agaaaatctct	tcaaattttg	aagagagtgt	tagttttttc	900	
tatagtatag	ataaaaaattt	agaaaattttt	aataaggttg	ctactataaa	tttctactgat	960	
attgaaaaata	ttaaaagtaa	ggttttttgat	ttaaatattg	tttttgaaaa	tgtgaataaa	1020	
aattttgcag	atctttttgtc	tcaaacaaat	agtttgcaaa	gtgtaaataa	acttttagtt	1080	
tcaatttcag	ctcagaccaa	tatgcttgct	atgaatgcag	caattgaagc	agcaaaaagca	1140	
ggtgatgcag	gtaaaagttt	tgagttgtt	gctgaggaga	ttagaagact	tgctattaat	1200	
tctggaaaat	attctaaaaa	cattaaaagat	gaacttaaaa	cggtcgacag	cattatttgc	1260	
gtaatttaatt	cagagattga	tacaattttat	aaaaatttca	tagacattca	agataatgtg	1320	
gacaacaatt	tttcaagaca	cgagaaaagta	gatcttactc	ttgctaagca	ttttaagaa	1380	
attggcgagt	ttaaagaaag	gtattttgtct	cacgatacta	agatcagaga	tgctaagaat	1440	
atgtataaag	aaatattttaa	taatcattat	tttattagt	gcaagtttaa	caacttttagt	1500	
caagattttaa	aagagtttaa	agttttctaag	atgaatttag	atgcggttaag	ttctcttcaa	1560	
gaatatttcat	cttttagtaaa	gtctttctaag	gataagatat	taaagacaaa	ggaattgatt	1620	
caaaaagatta	atqatqagat	taaaagattt	cttttttag			1659	

<210> 475  
<211> 1572  
<212> DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 475

```

tgctttgatg agtcgttaga tattattgaa aatcagttgt attcttctct taaatttggg 60
agtaaaaatt ataatttttt tatgcttgac agaaattaca tgcccathtt ttcaaacttt 120
aataatcttc aggccaaatc tttttctaca gcttatagtg agaatttttt gagtaaagtt 180
atagcttatg ctaaaaaaga ttcttctagc tctcagtaca cttttaatta tgaaagagat 240
ttttattctt taaactttgt aaaaaccgat gattttttga ctcaggggct tatttttaaat 300
gtcaattcca ttctattatg gtttaaatca aattgggtta ttttggttgc atttttatta 360
ttgtcttttg caattatttt ttatttatgc aatacttttg ttttttcatt aattaatgat 420
tttaacagaa ttgttgacta tcaaaaatca aaaagcgatc ctttttagtct tgaatctccc 480
ttagagggtta agtattcttc atctattatt tcttatatta gttcaaagct agataatctg 540
tcttctaaga gtaatgaatc ttttgagaag ataaaatttt attctgaaga tttgaatgaa 600
tatttggaac aaatagaaac tgctatatca aatactgaga gtatagattc tagcatttta 660
gtttacgaac aactaagaga tactttttct agatttgaaa aatcaattgt tgatatttta 720
aaaggctttg aatctattgc tgatccgatt aatgatcaca ataaatatat atcagaaatc 780
tcttcaaat ttgaagagag tgtagttttt ttctatagta tagataaaaa tttagaaatt 840
tttaataagg ttgctactat aaattctact gatattgaaa atattaaaag taagggtttt 900
gattttaaata ttgtttttga aaatgtgaat aaaaattttg cagatctttt gtctcaaaca 960
aatagtttgc aaagtgtaaa taaactttta gtttcaattt cagctcagac caatatgctt 1020
gctatgaatg cagcaattga agcagcaaaa gcaggtgatg caggtaaaaag ttttgcagtt 1080
gttgctgagg agattagaaa gcttgctatt aattctggaa aatattctaa aaccattaaa 1140
gatgaactta aaacgggtcg cagcattatt gcagtaatta attcagagat tgatacaatt 1200
tataaaaaatt tcatagacat tcaagataat gtggacaaca atttttcaag acacgagaaa 1260
gtagatctta ctcttgctaa gcatttttaa gaaattggcg agtttaaaga aagggtatttg 1320
tctcacgata ctaagatcag agatgctaag aatatgtata aagaaatatt taataatcat 1380
tattttatta gtggcaagtt taacaacttt agtcaagatt taaaagagtt taaagtttct 1440
aagatgaatt tagatgcggt aagttctctt caagaatatt catctttagt aaagtcctct 1500
aaggataaga tattaaagac aaaggaattg attcaaaaga ttaatgatga gattaaagat 1560
attctttttt ag 1572

```

&lt;210&gt; 476

&lt;211&gt; 167

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 476

```

Met Ser Ile Asp Lys Val Pro Asp Glu Ala Phe Ala Glu Lys Ile Val
  1           5           10          15

Gly Asp Gly Ile Ala Ile Leu Pro Thr Ser Asn Glu Leu Leu Ala Pro
  20           25           30

Cys Asp Gly Lys Ile Gly Lys Ile Phe Lys Thr Asn His Ala Phe Ser
  35           40           45

Leu Glu Thr Lys Glu Gly Val Glu Ile Phe Val His Phe Gly Ile Asn
  50           55           60

Thr Leu Asn Leu Asn Gly Lys Gly Phe Thr Arg Val Ala Glu Glu Gly
  65           70           75           80

Ile Asn Val Lys Gln Gly Glu Val Ile Ile Arg Leu Asp Leu Glu Tyr
  85           90           95

Leu Lys Glu His Ser Glu Ser Val Ile Thr Pro Val Val Ile Ala Asn
 100          105          110

```

Ser Asp Glu Val Ser Ser Ile Glu Tyr Ser Phe Gly Arg Leu Glu Asn  
115 120 125

Asp Ser Glu Tyr Ile Leu Ser Ser Ser Thr Val Leu Thr Glu Glu Ile  
130 135 140

Arg His Lys Ile Ser Gln Thr Lys Pro Val Ile Ala Gly Lys Asp Leu  
145 150 155 160

Val Leu Arg Val Lys Lys Glx  
165

<210> 477

<211> 135

<212> PRT

<213> Homo sapiens

<400> 477

Cys Asp Gly Lys Ile Gly Lys Ile Phe Lys Thr Asn His Ala Phe Ser  
1 5 10 15

Leu Glu Thr Lys Glu Gly Val Glu Ile Phe Val His Phe Gly Ile Asn  
20 25 30

Thr Leu Asn Leu Asn Gly Lys Gly Phe Thr Arg Val Ala Glu Glu Gly  
35 40 45

Ile Asn Val Lys Gln Gly Glu Val Ile Ile Arg Leu Asp Leu Glu Tyr  
50 55 60

Leu Lys Glu His Ser Glu Ser Val Ile Thr Pro Val Val Ile Ala Asn  
65 70 75 80

Ser Asp Glu Val Ser Ser Ile Glu Tyr Ser Phe Gly Arg Leu Glu Asn  
85 90 95

Asp Ser Glu Tyr Ile Leu Ser Ser Ser Thr Val Leu Thr Glu Glu Ile  
100 105 110

Arg His Lys Ile Ser Gln Thr Lys Pro Val Ile Ala Gly Lys Asp Leu  
115 120 125

Val Leu Arg Val Lys Lys Glx  
130 135

<210> 478

<211> 501

<212> DNA

<213> Homo sapiens

<400> 478

atgtcaattg ataaggttcc cgatgaagct tttgctgaaa aaatagttgg cgatggaatt 60  
gcaattcttc caacaagcaa tgagttgttg ggccttcttg atgggaaaat aggtaaaatt 120  
tttaaaacca atcatgcctt tagccttgaa actaaagagg gcgttgaaat tttgtccat 180  
tttggaatta atactcttaa tttaaatggg aagggtttta caagagttgc tgaagagggc 240  
attaatgtta aacaaggtga agttattatt aggcttgatc ttgaatattt aaaagagcat 300  
tcagaatccg ttattactcc ggttggttatt gcaaattctg atgaagtttc aagtatagaa 360  
tattcttttg gaaggcttga aaatgattct gaatatattt tatcatcttc aactgtcttg 420



acagaagaaa ttaggcataa aatatctcaa acaaagcctg ttatagcggg caaagatttg 480  
gtgttgcgag ttaaaaagta a 501

<210> 479  
<211> 405  
<212> DNA  
<213> Homo sapiens

<400> 479  
tgtgatggga aaataggtaa aatTTTTTaaa accaatcatg ccttttagcct tgaaactaaa 60  
gagggcggtg aaatttttTgt ccatttttTga attaatactc ttaattTaaa tggtaagggt 120  
tttacaagag ttgctgaaga gggcattaat gttaaacaag gtgaagttat tattaggctt 180  
gatcttgaat attTaaaaga gcattcagaa tccgttatta ctccggttgt tattgcaaat 240  
tctgatgaag tttcaagtat agaattattct tttggaaggc ttgaaaatga ttctgaatat 300  
atTTtatcat cttcaactgt cttgacagaa gaaattaggc ataaaatatc tcaaacaaag 360  
cctgttatag cgggcaaaga tttggtgttg cgagtTaaaa agtaa 405

<210> 480  
<211> 719  
<212> PRT  
<213> Homo sapiens

<400> 480  
Met Asn Tyr Gln Arg Ile Lys Asn Tyr Cys Lys Phe Thr Ser Val Phe  
1 5 10 15  
Leu Phe Phe Leu Phe Ser Cys Val Ser Asn Glu Leu Lys Leu Asp Gln  
20 25 30  
Ser Leu Val Lys Gly Lys Leu Val Asn Gly Leu Arg Tyr Tyr Ile Tyr  
35 40 45  
Lys Asn Gln Thr Pro Lys Asn Ala Val Asn Met Gly Ile Val Phe Asn  
50 55 60  
Val Gly Ser Leu Asn Glu Glu Asp Asn Glu Arg Gly Ile Ala His Tyr  
65 70 75 80  
Leu Glu His Met Ala Phe Asn Gly Thr Lys Asp Tyr Pro Gly Asn Ser  
85 90 95  
Ile Val Asp Val Leu Lys Lys Phe Gly Met Gln Phe Gly Ala Asp Ile  
100 105 110  
Asn Ala Ala Thr Ser Phe Asp Phe Thr Tyr Tyr Arg Leu Asp Leu Ser  
115 120 125  
Asp Gly Asn Asn Lys Asp Glu Ile Asp Glu Ser Ile Asn Ile Leu Arg  
130 135 140  
Asn Trp Ala Ser Gln Ile Ser Phe Met Lys Glu Glu Ile Asp Leu Glu  
145 150 155 160  
Arg Asn Ile Ile Ile Glu Glu Lys Lys Leu Gly Glu Thr Tyr Pro Gly  
165 170 175  
Arg Ile Tyr Glu Lys Met Asp Lys Phe Leu Thr Ser Gly Ser Leu Tyr  
180 185 190

Glu Phe Arg Ser Pro Ile Gly Leu Glu Glu Gln Ile Leu Ser Phe Gln  
 195 200 205  
 Pro Glu Asp Phe Lys Lys Phe Tyr Arg Lys Trp Tyr Arg Pro Glu Leu  
 210 215 220  
 Ala Ser Val Ile Val Val Gly Asp Ile Asp Pro Ile Glu Ile Glu Glu  
 225 230 235 240  
 Lys Ile Lys Lys Gln Phe Val Ser Trp Lys Asn Pro Thr Asp Lys Ile  
 245 250 255  
 Lys Glu Val Lys Val Ser Leu Asp Val Glu Leu Lys Asp Lys Phe Leu  
 260 265 270  
 Leu Leu Glu Asp Leu Glu Val Gly Glu Pro Ser Leu Met Phe Phe Lys  
 275 280 285  
 Lys Glu Ile Ile Asn Phe Val Lys Thr Lys Asp Asp Leu Leu Asn Ala  
 290 295 300  
 Ile Lys Lys Ser Leu Leu Ala Ala Leu Phe Glu Asn Arg Phe Ser Glu  
 305 310 315 320  
 Leu Lys Thr Ala Gly Val Lys Gln Phe Lys Asn Val Ser Asn Lys Asp  
 325 330 335  
 Phe Phe Ser Phe Lys Ser Asp Asn Asn Thr Ile Val Ala Lys Ser Ile  
 340 345 350  
 Ser Leu Asn Phe Asn Pro Asp His Leu Asn Glu Gly Ile Gln Asp Phe  
 355 360 365  
 Phe Tyr Glu Leu Glu Arg Ile Arg Lys Phe Gly Phe Thr Gln Gly Glu  
 370 375 380  
 Leu Glu Lys Val Arg Ser Gln Phe Tyr Lys Ser Leu Glu Leu Arg Lys  
 385 390 395 400  
 Lys Asn Ile Asn Lys Thr Asn Ser Trp Ala Ile Phe Gln Asp Leu Ile  
 405 410 415  
 Glu Ile Ala Ile Asn Gly Ser Asn Lys Phe Asp Met Asn Glu Tyr Cys  
 420 425 430  
 Asp Leu Ser Phe Gln Tyr Leu Glu Lys Ile Asp Leu Lys Thr Ile Asn  
 435 440 445  
 Asn Leu Val Gly Arg Glu Phe Asp Val Lys Asn Cys Ala Ile Phe Tyr  
 450 455 460  
 Ser Tyr His Gly Arg Ala His Pro Val Leu Thr Leu Glu Asp Ile Asp  
 465 470 475 480  
 Asn Leu Gln Lys Ile Ala Leu Lys Arg Glu Leu Lys Pro Tyr Glu Asn  
 485 490 495

Ser Leu Ile Glu Gly Lys Phe Phe Lys Lys Ser Leu Asp Asp Lys Asp  
500 505 510

Ile Ile Arg Glu Asn Glu Phe Glu Asn Glu Ile Ser Ser Phe Val Leu  
515 520 525

Glu Asn Gly Val Glu Val Tyr Phe Lys Tyr Asn Asp Gln Lys Lys Gly  
530 535 540

Val Ile Asp Phe Ser Ala Thr Ser Trp Gly Gly Leu Ile Asn Glu Asp  
545 550 555 560

Leu Lys Leu Ile Pro Val Leu Ser Phe Ala Pro Gly Val Val Ser Gly  
565 570 575

Ser Gly Tyr Gly Asp Tyr Ser Ala Leu Gln Ile Glu Lys Tyr Leu Ser  
580 585 590

Asp Lys Ala Val Ser Leu Arg Val Gly Val Gly Ala Gln Glu Ser Tyr  
595 600 605

Ile Ser Gly Ser Ser Asp Lys Lys Asp Leu Glu Thr Leu Phe Gln Leu  
610 615 620

Ile Tyr Phe Thr Phe Lys Glu Pro Lys Ile Asp Asp Val Ser Leu Gln  
625 630 635 640

Asn Ala Ile Asn Asn Ile Lys Ala Leu Ile Lys Ser Asn Glu Asn Ser  
645 650 655

Ser Asp Tyr His Phe His Lys Ala Ile Ser Lys Phe Leu Asn Asn Asn  
660 665 670

Asp Pro Arg Phe Glu Asp Thr Lys Asp Ser Asp Leu Gln Tyr Phe Thr  
675 680 685

Lys Glu Asn Ile Leu Ser Phe Tyr Lys Lys Arg Phe Thr Tyr Ala Asn  
690 695 700

Asn Phe Lys Phe Val Leu Leu Glu Thr Gln Ile Phe Arg Gln Glx  
705 710 715

<210> 481

<211> 697

<212> PRT

<213> Homo sapiens

<400> 481

Cys Val Ser Asn Glu Leu Lys Leu Asp Gln Ser Leu Val Lys Gly Lys  
1 5 10 15

Leu Val Asn Gly Leu Arg Tyr Tyr Ile Tyr Lys Asn Gln Thr Pro Lys  
20 25 30

Asn Ala Val Asn Met Gly Ile Val Phe Asn Val Gly Ser Leu Asn Glu  
35 40 45

Glu Asp Asn Glu Arg Gly Ile Ala His Tyr Leu Glu His Met Ala Phe

50		55		60
Asn Gly Thr Lys Asp Tyr Pro Gly Asn Ser Ile Val Asp Val Leu Lys				
65		70		75 80
Lys Phe Gly Met Gln Phe Gly Ala Asp Ile Asn Ala Ala Thr Ser Phe				
	85		90	95
Asp Phe Thr Tyr Tyr Arg Leu Asp Leu Ser Asp Gly Asn Asn Lys Asp				
	100		105	110
Glu Ile Asp Glu Ser Ile Asn Ile Leu Arg Asn Trp Ala Ser Gln Ile				
	115		120	125
Ser Phe Met Lys Glu Glu Ile Asp Leu Glu Arg Asn Ile Ile Ile Glu				
	130		135	140
Glu Lys Lys Leu Gly Glu Thr Tyr Pro Gly Arg Ile Tyr Glu Lys Met				
	145		150	155 160
Asp Lys Phe Leu Thr Ser Gly Ser Leu Tyr Glu Phe Arg Ser Pro Ile				
	165		170	175
Gly Leu Glu Glu Gln Ile Leu Ser Phe Gln Pro Glu Asp Phe Lys Lys				
	180		185	190
Phe Tyr Arg Lys Trp Tyr Arg Pro Glu Leu Ala Ser Val Ile Val Val				
	195		200	205
Gly Asp Ile Asp Pro Ile Glu Ile Glu Glu Lys Ile Lys Lys Gln Phe				
	210		215	220
Val Ser Trp Lys Asn Pro Thr Asp Lys Ile Lys Glu Val Lys Val Ser				
	225		230	235 240
Leu Asp Val Glu Leu Lys Asp Lys Phe Leu Leu Leu Glu Asp Leu Glu				
	245		250	255
Val Gly Glu Pro Ser Leu Met Phe Phe Lys Lys Glu Ile Ile Asn Phe				
	260		265	270
Val Lys Thr Lys Asp Asp Leu Leu Asn Ala Ile Lys Lys Ser Leu Leu				
	275		280	285
Ala Ala Leu Phe Glu Asn Arg Phe Ser Glu Leu Lys Thr Ala Gly Val				
	290		295	300
Lys Gln Phe Lys Asn Val Ser Asn Lys Asp Phe Phe Ser Phe Lys Ser				
	305		310	315 320
Asp Asn Asn Thr Ile Val Ala Lys Ser Ile Ser Leu Asn Phe Asn Pro				
	325		330	335
Asp His Leu Asn Glu Gly Ile Gln Asp Phe Phe Tyr Glu Leu Glu Arg				
	340		345	350
Ile Arg Lys Phe Gly Phe Thr Gln Gly Glu Leu Glu Lys Val Arg Ser				
	355		360	365

Gln Phe Tyr Lys Ser Leu Glu Leu Arg Lys Lys Asn Ile Asn Lys Thr  
 370 375 380  
 Asn Ser Trp Ala Ile Phe Gln Asp Leu Ile Glu Ile Ala Ile Asn Gly  
 385 390 395 400  
 Ser Asn Lys Phe Asp Met Asn Glu Tyr Cys Asp Leu Ser Phe Gln Tyr  
 405 410 415  
 Leu Glu Lys Ile Asp Leu Lys Thr Ile Asn Asn Leu Val Gly Arg Glu  
 420 425 430  
 Phe Asp Val Lys Asn Cys Ala Ile Phe Tyr Ser Tyr His Gly Arg Ala  
 435 440 445  
 His Pro Val Leu Thr Leu Glu Asp Ile Asp Asn Leu Gln Lys Ile Ala  
 450 455 460  
 Leu Lys Arg Glu Leu Lys Pro Tyr Glu Asn Ser Leu Ile Glu Gly Lys  
 465 470 475 480  
 Phe Phe Lys Lys Ser Leu Asp Asp Lys Asp Ile Ile Arg Glu Asn Glu  
 485 490 495  
 Phe Glu Asn Glu Ile Ser Ser Phe Val Leu Glu Asn Gly Val Glu Val  
 500 505 510  
 Tyr Phe Lys Tyr Asn Asp Gln Lys Lys Gly Val Ile Asp Phe Ser Ala  
 515 520 525  
 Thr Ser Trp Gly Gly Leu Ile Asn Glu Asp Leu Lys Leu Ile Pro Val  
 530 535 540  
 Leu Ser Phe Ala Pro Gly Val Val Ser Gly Ser Gly Tyr Gly Asp Tyr  
 545 550 555 560  
 Ser Ala Leu Gln Ile Glu Lys Tyr Leu Ser Asp Lys Ala Val Ser Leu  
 565 570 575  
 Arg Val Gly Val Gly Ala Gln Glu Ser Tyr Ile Ser Gly Ser Ser Asp  
 580 585 590  
 Lys Lys Asp Leu Glu Thr Leu Phe Gln Leu Ile Tyr Phe Thr Phe Lys  
 595 600 605  
 Glu Pro Lys Ile Asp Asp Val Ser Leu Gln Asn Ala Ile Asn Asn Ile  
 610 615 620  
 Lys Ala Leu Ile Lys Ser Asn Glu Asn Ser Ser Asp Tyr His Phe His  
 625 630 635 640  
 Lys Ala Ile Ser Lys Phe Leu Asn Asn Asn Asp Pro Arg Phe Glu Asp  
 645 650 655  
 Thr Lys Asp Ser Asp Leu Gln Tyr Phe Thr Lys Glu Asn Ile Leu Ser  
 660 665 670

Phe Tyr Lys Lys Arg Phe Thr Tyr Ala Asn Asn Phe Lys Phe Val Leu  
 675 680 685

Leu Glu Thr Gln Ile Phe Arg Gln Glx  
 690 695

<210> 482  
 <211> 2157  
 <212> DNA  
 <213> Homo sapiens

<400> 482  
 atgaattatc aaagaattaa gaattattgt aaattttacaa gcgtttttct attttttttg 60  
 ttttcctgtg tttctaataa gttaaagtta gatcaaagtt tggtaaaagg aaaacttgtc 120  
 aatgggctaa ggtattatat ttataaaaaa caaaccccaa agaatgccgt taatatggga 180  
 attgttttta atgtgggctc acttaatgaa gaagataatg agaggggaat agcgcatat 240  
 cttgaacata tggcttttaa tggtaaaaaa gattatccag ggaattctat agttgatgtt 300  
 cttaaaaaat ttggaatgca atttggtgct gacattaatg ctgctactag ttttgatttc 360  
 acttattata gacttgattt gtcagatggt aataataaag atgaaattga tgaatctata 420  
 aatatttttg gaaactgggc ttctcaaatc agtttcatga aagaagaaat agatctagag 480  
 cgaaatatta ttattgagga aaaaaagctt ggtgagactt atcctggaag aatttatgag 540  
 aaaatggata agtttttgac aagcgggaagt ctttatgaat ttagaagtc tattggactt 600  
 gaagagcaaa ttttatcttt tcagccagaa gatttttaaa aatttttatag aaagtggat 660  
 aggccagaac ttgcaagtgt tattgtggtt ggagatattg atcctataga aattgaagag 720  
 aagataaaga agcaatttgt ttcttggaaa aatccaaccg ataaaattaa agaagtaaaa 780  
 gtaagtttag acgtagagct taaggataaa tttttacttt tagaagattt ggaagttgga 840  
 gagcctagtt taatgttctt taaaaaggaa attattaact ttgtaaagac caaagatgac 900  
 ctttttaaat ctattaaaaa gtcttttata gccgctcttt ttgaaaatag attttctgaa 960  
 ttaaagactg ctggggtaaa gcaattttaa aatgtttcaa ataaagattt tttctcattt 1020  
 aaatcagata acaataccat tgttgcaaaa tcgatttctt taaactttaa tccagatcat 1080  
 ttgaacgaag gaatacaaga ctttttttat gagcttgaga ggataagaaa atttggattt 1140  
 acccaagggt agcttgaaaa agtttagatct caattttaca aatctttaga attaaggaaa 1200  
 aagaatataa ataaaaacaaa ttcatgggct atttttcagg atttaataga aattgctatt 1260  
 aatggttcta ataaatttga tatgaatgaa tattgcatc tttcttttca atatttgaa 1320  
 aagattgatt taaaaacaat aaacaatctt gtagggaag agtttgatgt aaaaaattgt 1380  
 gcaatttttt attcttacca tgggaagagca catcctgttt taactcttga agatattgac 1440  
 aatcttcaaa agatagcttt aaaaagagag ttaaagcctt atgagaattc tttaattgaa 1500  
 ggtaaatttt ttaagaagtc ttttagatgat aaagatatta ttagagaaaa tgagtttgaa 1560  
 aatgaaattt cgtcatttgt tcttgaaaat ggggttgaa tttattttta atataatgat 1620  
 caaaaaaag gtgtaattga ttttagtgca acttcttggg gaggtttaat taatgaagat 1680  
 ttaaaactta ttctgttttt atcttttgct cccggagtag tatctggttc ggggtatggt 1740  
 gattattctg cattacagat tgaaaaatat ttatcagata aagctgtttc tttaagagtt 1800  
 ggggttgagg ctcaagaatc atatatttct ggaagttcag ataaaaaaga tcttgaaact 1860  
 ctttttcagc ttatatattt tacttttaag gaacccaaaa ttgatgatgt ttctttgcaa 1920  
 aatgctatta ataataaaa agcattaata aagagcaatg aaaatagttc tgattatcat 1980  
 tttcataaag ccattagtaa atttttaaac aataatgatc ctagatttga agatacaaaa 2040  
 gatagtgtt tgcaatatatt taaaaagaa aatattttgt ctttttataa gaaaagggtt 2100  
 acttatgcaa ataattttta gtttgtcttg ctggagactc agatattcag acaataa 2157

<210> 483  
 <211> 2091  
 <212> DNA  
 <213> Homo sapiens

<400> 483  
 tgtgtttcta atgagttaaa gtttagatcaa agtttggtta aaggaaaact tgtcaatggg 60  
 ctaagggtatt atatttataa aaatcaaacc ccaaagaatg ccgttaatat ggggaattgtt 120  
 tttaatgtgg gctcacttaa tgaagaagat aatgagaggg gaatagcgca ttatcttgaa 180

```

catatggcctt ttaatggtac aaaagattat ccaggaatt ctatagttga tgttcttaaa 240
aaatttgga tgcaatttgg tgctgacatt aatgctgcta ctagttttga tttcacttat 300
tatagacttg atttgtcaga tggtaataat aaagatgaaa ttgatgaatc tataaatatt 360
ttgagaaact gggcttctca aatcagtttc atgaaagaag aaatagatct agagcgaaat 420
attattattg aggaaaaaaa gcttggtgag acttatcctg gaagaattta tgagaaaatg 480
gataagtttt tgacaagcgg aagtcctttat gaatttagaa gtcctatttg acttgaagag 540
caaattttat cttttcagcc agaagatttt aaaaaatttt atagaaagtg gtataggcca 600
gaacttgcaa gtgttattgt ggtaggagat attgatccta tagaaattga agagaagata 660
aagaagcaat ttgtttcttg gaaaaatcca accgataaaa ttaaagaagt aaaagtaagt 720
ttagacgtag agcttaagga taaattttta cttttagaag atttggaggt tggagagcct 780
agtttaaatg tctttaaaaa ggaaattatt aactttgtaa agaccaaaga tgacctttta 840
aatgctatta aaaagtcttt attagccgct ctttttgaaa atagattttc tgaattaaag 900
actgctgggg taaagcaatt taaaaatgtt tcaaataaag attttttctc attttaaata 960
gataacaata ccattgttgc aaaatcgatt tctttaaact ttaatccaga tcatttgaac 1020
gaaggaatac aagacttttt ttatgagcct gagaggataa gaaaatttgg atttacccaa 1080
gggtgagcttg aaaaagttag atctcaattt tacaatctt tagaattaaag gaaaaagaat 1140
ataataaaaa caaattcatg ggctattttt caggatttaa tagaaattgc tattaatggg 1200
tctaataaat ttgatatgaa tgaatattgc gatctttctt ttcaatattt ggaaaagatt 1260
gatttaaaaa caataaacia tcttgttaga agagagtttg atgtaaaaaa ttgtgcaatt 1320
ttttattctt accatggaag agcacatcct gttttaactc ttgaagatat tgacaatcct 1380
caaaagatag ctttaaaaag agagttaaaag ccttatgaga attctttaat tgaaggtaaa 1440
ttttttaaga agtctttaga tgataaagat attattagag aaaatgagtt tgaaaatgaa 1500
atttcgtcat ttgttcttga aaatgggggt gaagtatttt ttaaataata tgatcaaaaa 1560
aaaggtgtaa ttgattttag tgcaacttct tggggagggt taattaatga agatttaaaa 1620
cttattcctg ttttatcttt tgctcccgga gtagtatctg gttcgggtta tgggtgattat 1680
tctgcattac agattgaaaa atatttatca gataaagctg tttctttaag agttgggggt 1740
ggagctcaag aatcatatat ttctggaagt tcagataaaa aagatcttga aactcttttt 1800
cagcttatat attttacttt taaggaaccc aaaattgatg atgtttcttt gcaaatgact 1860
attaataata taaaagcatt aataaagagc aatgaaaata gttctgatta tcattttcat 1920
aaagccatta gtaatttttt aaacaataat gatcctagat ttgaagatac aaaagatagt 1980
gatttgcaat attttacaaa agaaaatatt ttgtcttttt ataagaaaag gtttacttat 2040
gcaataaatt ttaagtttgt cttgctggag actcagatat tcagacaata a 2091

```

&lt;210&gt; 484

&lt;211&gt; 285

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 484

```

Met Asp Trp Asp Phe Glu Lys Ile Ile Phe Leu Leu Asn Glu Ser Thr
  1             5             10             15

```

```

Arg Leu Ala Leu Ser Gly Cys Ala Lys Leu Ile Leu Asp Phe Lys Ser
      20             25             30

```

```

Asp Gly Ser Ile Val Thr Gln Val Asp Lys Gln Ile Glu Gln Phe Leu
  35             40             45

```

```

Phe Lys Glu Ile Lys Lys Pro Gly Asn Phe Val Leu Gly Glu Glu Thr
  50             55             60

```

```

Ile Ser Thr Tyr Lys Glu Glu Tyr Ile Lys Asp Ala Leu Ile Ser Glu
  65             70             75             80

```

```

Ser Thr Phe Ile Ile Asp Pro Ile Asp Gly Thr Ser Ser Phe Ala Ala
      85             90             95

```

```

Gly Leu Pro Ser Tyr Gly Ile Ser Leu Ala Tyr Ala Ser Gly Gly Lys

```

100					105					110					
Ile	Ile	Glu	Gly	Ala	Ile	Ser	Leu	Pro	Leu	Ser	Gly	Glu	Phe	Phe	Ile
		115					120					125			
Thr	Ser	Lys	Asp	Asn	Val	Phe	Tyr	Ala	Lys	Lys	Asn	Ile	Gly	Ser	Tyr
	130					135					140				
Pro	Leu	Lys	Lys	Asp	Phe	Asn	Lys	Phe	Ile	Phe	Asp	Asn	Ser	Lys	Cys
	145					150					155				160
Tyr	Asn	Ile	His	Ser	Leu	Leu	Ala	Val	Ser	Arg	Ser	Ile	Ile	Arg	Leu
				165					170					175	
Phe	Asn	Leu	Asp	Ile	Ser	Ser	His	Ile	His	Ile	Asn	Gly	Ser	Cys	Val
			180					185					190		
Tyr	Ser	Phe	Ala	Lys	Leu	Phe	Thr	Gly	Ser	Tyr	Lys	Ala	Tyr	Phe	Ser
		195					200					205			
Phe	Val	Gly	Leu	Trp	Asp	Ile	Ala	Ala	Cys	Leu	Ala	Ile	Gly	Asn	Lys
	210					215					220				
Leu	Gly	Met	Val	Gly	Glu	Phe	Tyr	Cys	Gly	Asn	Lys	Met	Thr	Leu	Asp
	225					230					235				240
Ile	Leu	Asp	Ser	Met	Tyr	Ile	Leu	Glu	Pro	Asn	Asn	His	Lys	Arg	Trp
				245					250					255	
Ser	Leu	Lys	Asp	Phe	Phe	Ile	Tyr	Ser	Asp	Asn	Lys	Ser	Thr	Ile	Asp
			260					265					270		
Ile	Ile	Arg	Lys	Asp	Ala	Asn	Lys	Lys	Ile	Asn	Lys	Glx			
		275					280					285			
<210> 485															
<211> 263															
<212> PRT															
<213> Homo sapiens															
<400> 485															
Cys	Ala	Lys	Leu	Ile	Leu	Asp	Phe	Lys	Ser	Asp	Gly	Ser	Ile	Val	Thr
	1					5					10			15	
Gln	Val	Asp	Lys	Gln	Ile	Glu	Gln	Phe	Leu	Phe	Lys	Glu	Ile	Lys	Lys
			20					25					30		
Pro	Gly	Asn	Phe	Val	Leu	Gly	Glu	Glu	Thr	Ile	Ser	Thr	Tyr	Lys	Glu
		35					40					45			
Glu	Tyr	Ile	Lys	Asp	Ala	Leu	Ile	Ser	Glu	Ser	Thr	Phe	Ile	Ile	Asp
	50					55					60				
Pro	Ile	Asp	Gly	Thr	Ser	Ser	Phe	Ala	Ala	Gly	Leu	Pro	Ser	Tyr	Gly
	65					70					75				80
Ile	Ser	Leu	Ala	Tyr	Ala	Ser	Gly	Gly	Lys	Ile	Ile	Glu	Gly	Ala	Ile
				85					90					95	



Ser Leu Pro Leu Ser Gly Glu Phe Phe Ile Thr Ser Lys Asp Asn Val  
 100 105 110  
 Phe Tyr Ala Lys Lys Asn Ile Gly Ser Tyr Pro Leu Lys Lys Asp Phe  
 115 120 125  
 Asn Lys Phe Ile Phe Asp Asn Ser Lys Cys Tyr Asn Ile His Ser Leu  
 130 135 140  
 Leu Ala Val Ser Arg Ser Ile Ile Arg Leu Phe Asn Leu Asp Ile Ser  
 145 150 155 160  
 Ser His Ile His Ile Asn Gly Ser Cys Val Tyr Ser Phe Ala Lys Leu  
 165 170 175  
 Phe Thr Gly Ser Tyr Lys Ala Tyr Phe Ser Phe Val Gly Leu Trp Asp  
 180 185 190  
 Ile Ala Ala Cys Leu Ala Ile Gly Asn Lys Leu Gly Met Val Gly Glu  
 195 200 205  
 Phe Tyr Cys Gly Asn Lys Met Thr Leu Asp Ile Leu Asp Ser Met Tyr  
 210 215 220  
 Ile Leu Glu Pro Asn Asn His Lys Arg Trp Ser Leu Lys Asp Phe Phe  
 225 230 235 240  
 Ile Tyr Ser Asp Asn Lys Ser Thr Ile Asp Ile Ile Arg Lys Asp Ala  
 245 250 255  
 Asn Lys Lys Ile Asn Lys Glx  
 260

&lt;210&gt; 486

&lt;211&gt; 855

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 486

atggattggg attttgaaaa aattatatatt ttattaaatg aatcaactag gcttgcatta 60  
 agtgggtgtg ctaaattaat tttagatttt aaatctgatg ggtctattgt aactcagggt 120  
 gataagcaaa ttgagcaatt cttattcaaa gagatcaaaa agcctggaaa ttttgttctt 180  
 ggagaagaga caatatctac ttataaagaa gagtatatca aagatgcttt aatatcagag 240  
 agtactttta ttattgatcc tattgatgga acttcttctt ttgcagcagg ccttccttca 300  
 tatggaatat cgctagcgta tgctagtggc ggcaaaatta ttgaaggagc catttctctt 360  
 cctttaagcg gagagttttt tattacttct aaagataatg tattttatgc taaaaaaaac 420  
 attggtagct atcctttaaa aaaggatttt aataaattta tttttgataa ttctaaatgt 480  
 tacaatatcc atagtttact tgcagtttca aggtctatta taaggttatt taatcttgat 540  
 atttcttctc atattcatat taatggttct tgtgtatatt cttttgctaa actttttaca 600  
 gggtcttata aggcctactt ttcttttgta ggactttggg atattgcagc gtgttttagct 660  
 attggaataa aattgggcat gggtggcgaa ttttattgtg gtaataaaat gacattagat 720  
 atcttagatt caatgtatat tttagagcct aataatcata aaagatgggc cttgaaagat 780  
 ttttttattt attctgataa taaatcaaca atagacatta taagaaaaga tgcaataaaa 840  
 aaaatcaata agtaa 855

&lt;210&gt; 487

&lt;211&gt; 795

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 487

```

agtgggtgtg ctaaattaat tttagatttt aaatctgatg ggtctattgt aactcagggtt 60
gataagcaaa ttgagcaatt cttattcaaa gagatcaaaa agcctggaaa ttttgttctt 120
ggagaagaga caatatctac ttataaagaa gagtatatca aagatgcttt aatatcagag 180
agtactttta ttattgatcc tattgatgga acttcttctt ttgcagcagg ccttccttca 240
tatggaatat cgctagcgta tgctagtggc ggcaaaatta ttgaaggagc catttctctt 300
cctttaagcg gagagttttt tattacttct aaagataatg tattttatgc taaaaaaaaac 360
attggtagct atccttttaa aaaggatttt aataaattta tttttgataa ttctaaatgt 420
tacaatattc atagtttact tgcagtttca aggtctatta taaggttatt taatcttgat 480
atttcttctc atattcatat taatggttct tgtgtatatt cttttgctaa actttttaca 540
ggttcttata aggcctactt ttcttttgta ggactttggg atattgcagc gtgttttagct 600
attggttaata aattgggcat ggttggcgaa ttttattgtg gtaataaaat gacattagat 660
atcttagatt caatgtatat tttagagcct aataatcata aaagatggtc cttgaaagat 720
ttttttattt attctgataa taaatcaaca atagacatta taagaaaaga tgcaataaaa 780
aaaatcaata agtaa 795

```

&lt;210&gt; 488

&lt;211&gt; 214

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 488

```

Met Ala Phe Tyr Lys Leu Asn Asp Asn Ile Ala Leu Ala Glu Asp Leu
 1             5             10             15

Leu Lys Tyr Leu Leu Ser Ser Ile Leu Asn Glu Cys Ser Gln Asp Met
      20             25             30

Asp Phe Leu Glu Asn Tyr Ile Glu Lys Gly Leu Ile Lys Lys Leu Glu
      35             40             45

Asn Val Ile Asn Ser Asn Phe Glu Val Ile Thr Tyr Thr Lys Ala Ile
      50             55             60

Glu Ile Leu Glu Asn Ser Lys Lys Asn Phe Glu Ile Lys Pro Tyr Trp
      65             70             75             80

Gly Ile Asp Leu Gln Thr Asp His Glu Arg Tyr Leu Thr Glu Glu Thr
      85             90             95

Phe Lys Lys Pro Val Val Val Ile Asp Tyr Pro Lys Asn Phe Lys Ala
      100            105            110

Phe Tyr Met Lys Ala Asn Lys Asp Asn Lys Thr Val Lys Gly Met Asp
      115            120            125

Ile Leu Val Pro Lys Ile Gly Glu Ile Ile Gly Gly Ser Glu Arg Glu
      130            135            140

Asp Asp Leu Gln Lys Leu Glu Asn Arg Ile Lys Glu Leu Asn Leu Asn
      145            150            155            160

Ile Glu His Leu Asn Trp Tyr Leu Asp Leu Arg Arg Phe Gly Ser Ala
      165            170            175

```

Pro His Ser Gly Phe Gly Leu Gly Leu Glu Arg Leu Val Gln Tyr Ser  
180 185 190

Thr Gly Ile Ser Asn Ile Arg Asp Ser Ile Pro Phe Pro Arg Thr Pro  
195 200 205

Lys Asn Leu Tyr Phe Glx  
210

<210> 489

<211> 187

<212> PRT

<213> Homo sapiens

<400> 489

Cys Ser Gln Asp Met Asp Phe Leu Glu Asn Tyr Ile Glu Lys Gly Leu  
1 5 10 15

Ile Lys Lys Leu Glu Asn Val Ile Asn Ser Asn Phe Glu Val Ile Thr  
20 25 30

Tyr Thr Lys Ala Ile Glu Ile Leu Glu Asn Ser Lys Lys Asn Phe Glu  
35 40 45

Ile Lys Pro Tyr Trp Gly Ile Asp Leu Gln Thr Asp His Glu Arg Tyr  
50 55 60

Leu Thr Glu Glu Thr Phe Lys Lys Pro Val Val Val Ile Asp Tyr Pro  
65 70 75 80

Lys Asn Phe Lys Ala Phe Tyr Met Lys Ala Asn Lys Asp Asn Lys Thr  
85 90 95

Val Lys Gly Met Asp Ile Leu Val Pro Lys Ile Gly Glu Ile Ile Gly  
100 105 110

Gly Ser Glu Arg Glu Asp Asp Leu Gln Lys Leu Glu Asn Arg Ile Lys  
115 120 125

Glu Leu Asn Leu Asn Ile Glu His Leu Asn Trp Tyr Leu Asp Leu Arg  
130 135 140

Arg Phe Gly Ser Ala Pro His Ser Gly Phe Gly Leu Gly Leu Glu Arg  
145 150 155 160

Leu Val Gln Tyr Ser Thr Gly Ile Ser Asn Ile Arg Asp Ser Ile Pro  
165 170 175

Phe Pro Arg Thr Pro Lys Asn Leu Tyr Phe Glx  
180 185

<210> 490

<211> 642

<212> DNA

<213> Homo sapiens

<400> 490

atggcttttt ataagcttaa cgacaatatt gccctagcag aagatctctt gaaatatctt 60

```

ttaagttcaa ttttaaacga atgctcacia gatatggatt ttttagaaaa ttacattgaa 120
aaaggtttta ttaaaaaact agaaaatgta ataaattcaa attttgaggt tattacctat 180
actaaagcaa ttgaaattct tgaaaactca aaaaaaaatt ttgaaataaa accttactgg 240
ggaatagatt tgcaaacaga tcacgaaaga tacctaacag aagagacttt taaaaaaccg 300
gtagtggta ttgattatcc aaaaaatttc aaagcatttt acatgaaagc aaataaaagac 360
aataaaactg ttaaaggaaat ggacatactt gttccaaaaa ttggagagat tataggggga 420
agcgaaagag aagatgacct tcaaaaatta gaaaatagaa taaaagaatt aaacttaaac 480
attgaacatc taaactggta tcttgatcta agaagatttg gctcggctcc tcattctggc 540
tttggaacttg gacttgaaag attggtgcaa tactcaacag gaatatctaa tataagagat 600
tcaataccat tcccaaggac tcctaaaaat ctttattttt aa 642

```

<210> 491

<211> 561

<212> DNA

<213> Homo sapiens

<400> 491

```

tgctcacaag atatggattt tttagaaaat tacattgaaa aagggtttaat taaaaaacta 60
gaaaatgtaa taaattcaaa ttttgaggtt attacctata ctaaagcaat tgaaattctt 120
gaaaactcaa aaaaaattt tgaaataaaa ccttactggg gaatagattt gcaaacagat 180
cacgaaagat acctaacaga agagactttt aaaaaaccgg tagtgggcat tgattatcca 240
aaaaatttca aagcatttta catgaaagca aataaagaca ataaaactgt taaaggaatg 300
gacatacttg ttccaaaaat tggagagatt atagggggaa gcgaaagaga agatgacctt 360
caaaaattag aaaatagaat aaaagaatta aacttaaaca ttgaacatct aaactgggat 420
cttgatctaa gaagatttgg ctgggctcct cattctggct ttggacttgg acttgaaaga 480
ttggtgcaat actcaacagg aatatctaata ataagagatt caataccatt cccaaggact 540
cctaaaaatc tttattttta a 561

```

<210> 492

<211> 176

<212> PRT

<213> Homo sapiens

<400> 492

```

Met Lys Ile Leu Arg Leu Cys Leu Leu Phe Leu Phe Phe Ala Cys Thr
  1             5             10             15

```

```

Phe Asp Tyr Asp Glu Tyr Ser Ser Arg Ser Asp Val Ala Lys Lys Phe
          20             25             30

```

```

Pro Ser Ile Gln Ile Leu Gly Ile Lys Tyr Tyr Asp Val Val Tyr Asn
    35             40             45

```

```

Lys Glu Gln Thr Val Leu Asn Ser Leu Ser Phe Ser Tyr Phe Asn Asp
    50             55             60

```

```

Tyr Lys Ile Tyr Lys Ala Glu Asn Gly Arg Phe Leu Tyr His Ser Leu
    65             70             75             80

```

```

Asp Asn Glu Ile Ser Gly Lys Phe Asn Asn Leu Glu Gly Ser Tyr Ile
          85             90             95

```

```

Thr Lys Asp Leu Asp Met Arg Asp Ser Val Glu Phe Lys Ile Glu Asp
    100            105            110

```

```

Lys Asn Asn Tyr Tyr Leu Leu Asn Ser Asn Arg Leu Leu Trp Lys Asn
    115            120            125

```

Lys Asp Lys Lys Leu Gln Ser Pro Pro Asn Glu Leu Val Leu Ile Arg  
 130 135 140

Phe Asn Asp Ser Lys Ile Asn Gly Lys Gly Phe Ser Tyr Phe Leu Lys  
 145 150 155 160

Ser Asn Val Phe Tyr Phe Asp Ser Gly Val Glu Gly Ile Met Asn Glx  
 165 170 175

<210> 493

<211> 162

<212> PRT

<213> Homo sapiens

<400> 493

Cys Thr Phe Asp Tyr Asp Glu Tyr Ser Ser Arg Ser Asp Val Ala Lys  
 1 5 10 15

Lys Phe Pro Ser Ile Gln Ile Leu Gly Ile Lys Tyr Tyr Asp Val Val  
 20 25 30

Tyr Asn Lys Glu Gln Thr Val Leu Asn Ser Leu Ser Phe Ser Tyr Phe  
 35 40 45

Asn Asp Tyr Lys Ile Tyr Lys Ala Glu Asn Gly Arg Phe Leu Tyr His  
 50 55 60

Ser Leu Asp Asn Glu Ile Ser Gly Lys Phe Asn Asn Leu Glu Gly Ser  
 65 70 75 80

Tyr Ile Thr Lys Asp Leu Asp Met Arg Asp Ser Val Glu Phe Lys Ile  
 85 90 95

Glu Asp Lys Asn Asn Tyr Tyr Leu Leu Asn Ser Asn Arg Leu Leu Trp  
 100 105 110

Lys Asn Lys Asp Lys Lys Leu Gln Ser Pro Pro Asn Glu Leu Val Leu  
 115 120 125

Ile Arg Phe Asn Asp Ser Lys Ile Asn Gly Lys Gly Phe Ser Tyr Phe  
 130 135 140

Leu Lys Ser Asn Val Phe Tyr Phe Asp Ser Gly Val Glu Gly Ile Met  
 145 150 155 160

Asn Glx

<210> 494

<211> 528

<212> DNA

<213> Homo sapiens

<400> 494

atgaaaatac ttagactttg tttgttgttt ttgtttttt cttgtacttt tgattatgat 60

```

gagtattcta gtagatctga tgtggccaaa aagtttcctt caatacaaat attaggaatc 120
aagtattatg atgttgata caataaagag caaacggtt taaattcttt aagctttagt 180
tatttcaatg actataaaat ttataaggca gagaatggaa ggtttttata tcattcccta 240
gataatgaaa ttccagggaa gtttaataat ttggaagggtt cttatattac aaaggatttg 300
gatatgagag attctgtaga atttaaaata gaagataaaa ataattatta tttgcttaat 360
tcaaataaggc ttttatggaa gaataaagac aagaagttgc aatccccccc aaatgagcta 420
gtattaatta gatttaatga tagcaaaata aacggaaaag gattttctta ttttttaaag 480
agcaatgttt. tttattttga ttctggaggt gaaggaatca tgaattga 528

```

&lt;210&gt; 495

&lt;211&gt; 486

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 495

```

tgtacttttg attatgatga gtattctagt agatctgat tggccaaaaa gtttccttca 60
atacaaatat taggaatcaa gtattatgat gttgtataca ataaagagca aaccgtttta 120
aattctttta gctttagtta tttcaatgac tataaaattt ataaggcaga gaatggaagg 180
tttttatatc attccctaga taatgaaatt tcaggggaagt ttaataattt ggaaggttct 240
tatattacaa aggattttgga tatgagagat tctgtagaat ttaaaataga agataaaaaat 300
aattattatt tgcttaattc aaatagggtt ttatggaaga ataaagacaa gaagttgcaa 360
tcccccccaa atgagctagt attaattaga tttaatgata gcaaaataaa cggaaaagga 420
ttttcttatt ttttaaagag caatgttttt tattttgatt ctggagttga aggaatcatg 480
aattga 486

```

&lt;210&gt; 496

&lt;211&gt; 202

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 496

```

Met Lys Gln Lys Leu Ser Trp Ile Leu Leu Phe Cys Phe Leu Ser Cys
  1              5              10              15

Arg Ser Glu Ser Arg Leu Ala Glu Asn Val Leu Ile Glu Phe Phe Asp
      20              25              30

Ser Ile Lys Asn Phe Gln Ser Ser Pro Glu Ile Phe Phe Asn Tyr Leu
      35              40              45

Asn Ile Pro Ser Asp Asp Asp Leu Lys Ala Lys Ile Arg Gly Leu Lys
      50              55              60

Ser Gln Ala Lys Asp Asp Phe Ile Phe Tyr Pro Leu Phe Phe Asn Asn
      65              70              75              80

Leu Arg Tyr Glu Ile Ile Gly Arg Lys Asn Ile Ser Lys Gly Phe Glu
      85              90              95

Phe Glu Val Val Ile Lys Asn Ile Asn Phe Gln Asn Gly Ile Glu Lys
      100              105              110

Phe Leu Ala Lys Leu Asn Lys Ile Glu Gly Arg Ser Leu Asn Ile Lys
      115              120              125

Asn Leu Glu Lys Lys Glu Arg Lys Lys Ile Phe Asp Asn Leu Ile Asn
      130              135              140

```

Glu Val Ile Gly Glu Leu Asp Asp Phe Asp Tyr Thr Glu Val Val His  
145 150 155 160

Phe Phe Arg Val Val Lys Ser Ser Ser Glu Ser Tyr Lys Ile Glu Leu  
165 170 175

Leu Gly Asp Val Leu Asn Ile Gln Ser Arg Asn Lys Leu Ile Asn Asp  
180 185 190

Leu Phe Leu Val Leu Ser Pro Gly Ile Glx  
195 200

<210> 497

<211> 191

<212> PRT

<213> Homo sapiens

<400> 497

Cys Phe Leu Ser Cys Arg Ser Glu Ser Arg Leu Ala Glu Asn Val Leu  
1 5 10 15

Ile Glu Phe Phe Asp Ser Ile Lys Asn Phe Gln Ser Ser Pro Glu Ile  
20 25 30

Phe Phe Asn Tyr Leu Asn Ile Pro Ser Asp Asp Asp Leu Lys Ala Lys  
35 40 45

Ile Arg Gly Leu Lys Ser Gln Ala Lys Asp Asp Phe Ile Phe Tyr Pro  
50 55 60

Leu Phe Phe Asn Asn Leu Arg Tyr Glu Ile Ile Gly Arg Lys Asn Ile  
65 70 75 80

Ser Lys Gly Phe Glu Phe Glu Val Val Ile Lys Asn Ile Asn Phe Gln  
85 90 95

Asn Gly Ile Glu Lys Phe Leu Ala Lys Leu Asn Lys Ile Glu Gly Arg  
100 105 110

Ser Leu Asn Ile Lys Asn Leu Glu Lys Lys Glu Arg Lys Lys Ile Phe  
115 120 125

Asp Asn Leu Ile Asn Glu Val Ile Gly Glu Leu Asp Asp Phe Asp Tyr  
130 135 140

Thr Glu Val Val His Phe Phe Arg Val Val Lys Ser Ser Ser Glu Ser  
145 150 155 160

Tyr Lys Ile Glu Leu Leu Gly Asp Val Leu Asn Ile Gln Ser Arg Asn  
165 170 175

Lys Leu Ile Asn Asp Leu Phe Leu Val Leu Ser Pro Gly Ile Glx  
180 185 190

<210> 498

<211> 606

<212> DNA

<213> Homo sapiens

&lt;400&gt; 498

```

atgaagcaaa aattaagttg gattttatta ttttgttttt tgtctttag atctgaatct 60
agattggctg aaaatgtttt aatagagttt tttgattcta ttaaaaattt tcaaagcagt 120
cctgaaatat tttttaatta tttaaatatt ccaagtgatg atgatctgaa ggcaaaaatt 180
cgtgggttga aatctcaggc aaaggatgat ttcatttttt atcctttgtt ttttaataat 240
ctaagatatg agataatagg tagaaaaaat atttctaagg gctttgaatt tgaagttgtt 300
attaaaaata ttaactttca aaacggtata gaaaaatttt tggctaaatt aaataaaaatt 360
gaagggagat ctttaaatat taaaaattta gaaaaaaaag agcgtaaaaa aatatttgac 420
aatttaataa atgaagttat tggagagttg gatgattttg attacactga agttgttcat 480
tttttttaga tagttaagag ttcttctgaa agttataaaa tagagctttt aggagatgtt 540
ttaaatatac agtctagaaa taagcttatt aatgatcttt ttttggtttt atcgcttgga 600
atttaa                                           606

```

&lt;210&gt; 499

&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 499

```

tgttttttgt cttgtagatc tgaatctaga ttggctgaaa atgttttaat agagtttttt 60
gattctatta aaaattttca aagcagtcct gaaatatttt ttaattattt aaatattcca 120
agtgatgatg atctgaaggc aaaaattcgt gggttgaaat ctcaggcaaa ggatgatttc 180
attttttatc ctttgttttt taataatcta agatatgaga taataggtag aaaaaatatt 240
tctaagggct ttgaatttga agttgttatt aaaaatatta actttcaaaa cggtagataa 300
aaatttttgg cttaattaaa taaaattgaa gggagatctt taaatattaa aaatttagaa 360
aaaaaagagc gtaaaaaaat atttgacaat ttaataaatg aagttatttg agagttggat 420
gattttgatt acactgaagt tgttcatttt tttagagtag ttaagagttc ttctgaaagt 480
tataaaatag agcttttagg agatgtttta aatatacagt ctagaaataa gcttattaat 540
gatctttttt tggttttatc gcttggaatt taa                                           573

```

&lt;210&gt; 500

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 500

```

Met Arg Ile Val Ile Phe Ile Phe Gly Ile Leu Leu Thr Ser Cys Phe
  1           5           10           15

Ser Arg Asn Gly Ile Glu Ser Ser Ser Lys Lys Ile Lys Ile Ser Met
          20           25           30

Leu Val Asp Gly Val Leu Asp Asp Lys Ser Phe Asn Ser Ser Ala Asn
          35           40           45

Glu Ala Leu Leu Arg Leu Lys Lys Asp Phe Pro Glu Asn Ile Glu Glu
          50           55           60

Val Phe Ser Cys Ala Ile Ser Gly Val Tyr Ser Ser Tyr Val Ser Asp
          65           70           75           80

Leu Asp Asn Leu Lys Arg Asn Gly Ser Asp Leu Ile Trp Leu Val Gly
          85           90           95

Tyr Met Leu Thr Asp Ala Ser Leu Leu Val Ser Ser Glu Asn Pro Lys
          100          105          110

```



Ile Ser Tyr Gly Ile Ile Asp Pro Ile Tyr Gly Asp Asp Val Gln Ile  
115 120 125

Pro Glu Asn Leu Ile Ala Val Val Phe Arg Val Glu Pro Arg Cys Phe  
130 135 140

Phe Gly Trp Leu Tyr Cys Ser Gln Lys Lys Leu Phe Trp Gln Asn Arg  
145 150 155 160

Phe Tyr Arg Gly Asn Glu Gly Glx  
165

<210> 501

<211> 154

<212> PRT

<213> Homo sapiens

<400> 501

Cys Phe Ser Arg Asn Gly Ile Glu Ser Ser Ser Lys Lys Ile Lys Ile  
1 5 10 15

Ser Met Leu Val Asp Gly Val Leu Asp Asp Lys Ser Phe Asn Ser Ser  
20 25 30

Ala Asn Glu Ala Leu Leu Arg Leu Lys Lys Asp Phe Pro Glu Asn Ile  
35 40 45

Glu Glu Val Phe Ser Cys Ala Ile Ser Gly Val Tyr Ser Ser Tyr Val  
50 55 60

Ser Asp Leu Asp Asn Leu Lys Arg Asn Gly Ser Asp Leu Ile Trp Leu  
65 70 75 80

Val Gly Tyr Met Leu Thr Asp Ala Ser Leu Leu Val Ser Ser Glu Asn  
85 90 95

Pro Lys Ile Ser Tyr Gly Ile Ile Asp Pro Ile Tyr Gly Asp Asp Val  
100 105 110

Gln Ile Pro Glu Asn Leu Ile Ala Val Val Phe Arg Val Glu Pro Arg  
115 120 125

Cys Phe Phe Gly Trp Leu Tyr Cys Ser Gln Lys Lys Leu Phe Trp Gln  
130 135 140

Asn Arg Phe Tyr Arg Gly Asn Glu Gly Glx  
145 150

<210> 502

<211> 504

<212> DNA

<213> Homo sapiens

<400> 502

atgagaattg taatttttat attcgggtatt ttgttgactt cttgcttttag tagaaatgga 60  
atagaatcta gttcaaaaaa aattaagata tccatgttgg tagatggtgt tcttgacgac 120  
aaatctttta attctagtgc taatgaggct ttattacgct tgaaaaaaga ttttcagaa 180  
aatattgaag aagttttttc ttgtgctatt tctggagttt attctagtta tgtttcagat 240

cttgataatt taaaaaggaa tggctcagac ttgatttggc ttgtagggtta catgcttacg 300  
gacgcatctt tattgggtttc atcggagaat ccaaaaatta gctatggaat aatagatccc 360  
atztatgggtg atgatgttca gattcctgaa aacttgattg ctggtgtttt cagagtagag 420  
ccaaggtgct tttttggctg gctatattgc agccaaaaaa agcttttctg gcaaaatagg 480  
ttttataggg ggaatgaagg gtaa 504

<210> 503

<211> 462

<212> DNA

<213> Homo sapiens

<400> 503

tgcttttagta gaaatggaat agaatctagt tcaaaaaaaa ttaagatata catgttggtta 60  
gatgggtgttc ttgacgacaa atcttttaaat tctagtgtta atgaggcttt attacgcttg 120  
aaaaaagatt ttccagaaaa tattgaagaa gttttttctt gtgctatttc tggagtttat 180  
tctagttatg tttcagatct tgataattta aaaaggaatg gctcagactt gatttggctt 240  
gtagggtaca tgcttacgga cgcattcttta ttggtttcat cggagaatcc aaaaattagc 300  
tatggaataa tagatcccat ttatggtgat gatgttcaga ttcttgaaaa cttgattgct 360  
gttggttttca gagtagagcc aagggtgcttt tttggctggc tatattgcag ccaaaaaaag 420  
cttttctggc aaaatagggt ttataggggg aatgaagggt aa 462

<210> 504

<211> 265

<212> PRT

<213> Homo sapiens

<400> 504

Met	Lys	Arg	Ile	Leu	Ala	Met	His	Asp	Ile	Ser	Ser	Met	Gly	Arg	Thr
1				5					10					15	
Ser	Leu	Thr	Ile	Cys	Ile	Pro	Val	Ile	Ser	Ser	Phe	Asn	Met	Gln	Val
			20					25					30		
Cys	Pro	Phe	Val	Thr	Ala	Val	Leu	Ser	Ala	Ser	Thr	Ala	Tyr	Lys	Lys
		35					40					45			
Phe	Glu	Ile	Val	Asp	Leu	Thr	Asp	His	Leu	Glu	Lys	Phe	Ile	Asn	Ile
	50					55					60				
Trp	Lys	Glu	Gln	Asn	Glu	His	Phe	Asp	Ile	Leu	Tyr	Thr	Gly	Phe	Leu
65					70					75					80
Gly	Ser	Glu	Lys	Gln	Ile	Thr	Ile	Glu	Lys	Ile	Ile	Lys	Leu	Ile	
			85					90					95		
Lys	Phe	Glu	Lys	Ile	Val	Ile	Asp	Pro	Val	Phe	Ala	Asp	Asp	Gly	Glu
		100						105					110		
Ile	Tyr	Pro	Ile	Phe	Asp	Asn	Lys	Ile	Ile	Ser	Gly	Phe	Arg	Lys	Ile
		115					120					125			
Ile	Lys	Tyr	Ala	Asn	Ile	Ile	Thr	Pro	Asn	Ile	Thr	Glu	Leu	Glu	Met
	130					135					140				
Leu	Ser	Lys	Ser	Ser	Lys	Leu	Asn	Asn	Lys	Asp	Asp	Ile	Ile	Lys	Ala
145					150					155				160	
Ile	Leu	Asn	Leu	Asp	Thr	Lys	Ala	Thr	Val	Val	Val	Thr	Ser	Val	Lys

165 170 175  
 Arg Gly Asn Leu Leu Gly Asn Ile Cys Tyr Asn Pro Lys Asn Lys Glu  
 180 185 190  
 Tyr Ser Glu Phe Phe Leu Glu Gly Leu Glu Gln Asn Phe Ser Gly Thr  
 195 200 205  
 Gly Asp Leu Phe Thr Ser Leu Leu Ile Gly Tyr Leu Glu Lys Phe Glu  
 210 215 220  
 Thr Glu Gln Ala Leu Glu Lys Thr Thr Lys Ala Ile His Leu Ile Ile  
 225 230 235 240  
 Lys Glu Ser Ile Lys Glu Asn Val Ser Lys Lys Glu Gly Val Arg Ile  
 245 250 255  
 Glu Asn Phe Leu Lys Asn Thr Phe Glx  
 260 265  
 <210> 505  
 <211> 245  
 <212> PRT  
 <213> Homo sapiens  
 <400> 505  
 Cys Ile Pro Val Ile Ser Ser Phe Asn Met Gln Val Cys Pro Phe Val  
 1 5 10 15  
 Thr Ala Val Leu Ser Ala Ser Thr Ala Tyr Lys Lys Phe Glu Ile Val  
 20 25 30  
 Asp Leu Thr Asp His Leu Glu Lys Phe Ile Asn Ile Trp Lys Glu Gln  
 35 40 45  
 Asn Glu His Phe Asp Ile Leu Tyr Thr Gly Phe Leu Gly Ser Glu Lys  
 50 55 60  
 Gln Gln Ile Thr Ile Glu Lys Ile Ile Lys Leu Ile Lys Phe Glu Lys  
 65 70 75 80  
 Ile Val Ile Asp Pro Val Phe Ala Asp Asp Gly Glu Ile Tyr Pro Ile  
 85 90 95  
 Phe Asp Asn Lys Ile Ile Ser Gly Phe Arg Lys Ile Ile Lys Tyr Ala  
 100 105 110  
 Asn Ile Ile Thr Pro Asn Ile Thr Glu Leu Glu Met Leu Ser Lys Ser  
 115 120 125  
 Ser Lys Leu Asn Asn Lys Asp Asp Ile Ile Lys Ala Ile Leu Asn Leu  
 130 135 140  
 Asp Thr Lys Ala Thr Val Val Val Thr Ser Val Lys Arg Gly Asn Leu  
 145 150 155 160  
 Leu Gly Asn Ile Cys Tyr Asn Pro Lys Asn Lys Glu Tyr Ser Glu Phe  
 165 170 175

Phe Leu Glu Gly Leu Glu Gln Asn Phe Ser Gly Thr Gly Asp Leu Phe  
 180 185 190  
 Thr Ser Leu Leu Ile Gly Tyr Leu Glu Lys Phe Glu Thr Glu Gln Ala  
 195 200 205  
 Leu Glu Lys Thr Thr Lys Ala Ile His Leu Ile Ile Lys Glu Ser Ile  
 210 215 220  
 Lys Glu Asn Val Ser Lys Lys Glu Gly Val Arg Ile Glu Asn Phe Leu  
 225 230 235 240  
 Lys Asn Thr Phe Glx  
 245

<210> 506  
 <211> 795  
 <212> DNA  
 <213> Homo sapiens

<400> 506  
 atgaaaagaa ttttagcaat gcatgatatt tcaagcatgg gaagaacatc tcttacaata 60  
 tgcataccag taatatcttc gtttaatatg caagtttggtc cttttgtgac agctgtcctt 120  
 tctgcttcca cagcttataa aaaatttgaa atagtggatt taaccgatca tttagaaaaa 180  
 tttatcaata tatggaaaaga acaaaatgag cactttgaca tactctatac cggatttctg 240  
 ggaagcgaaa aacaacaaat aacaatagag aaaataatta aattaataaa atttgaaaaa 300  
 attgtaattg atcctgtggt tgctgacgat ggagaaattt accctatatt tgataataaa 360  
 ataattagtg gatthagaaa aatcataaaag tacgcaaaca taataacacc caatatcaca 420  
 gaacttgaaa tgctaagcaa aagctcaaaa cttaacaaca aagatgatat cataaaagca 480  
 atattaaatc ttgatacaaa agcgacggta gttgttacaa gcgttaaaaag gggaaatctc 540  
 ttgggaaaca tttgctacaa tcctaaaaac aaagaatact cggagttttt tttagaagga 600  
 ttagaacaaca atttcagtgg aacaggagat ttatttacca gcttacttat aggatatttg 660  
 gaaaaatttg aaacagagca agccttagaa aaaacaacaa aggctattca cctaataata 720  
 aaagagtcaa ttaaagaaaa tgtttcacaaa aaagaagggg tccgaattga aaatttctta 780  
 aaaaatacat tttga 795

<210> 507  
 <211> 735  
 <212> DNA  
 <213> Homo sapiens

<400> 507  
 tgcataccag taatatcttc gtttaatatg caagtttggtc cttttgtgac agctgtcctt 60  
 tctgcttcca cagcttataa aaaatttgaa atagtggatt taaccgatca tttagaaaaa 120  
 tttatcaata tatggaaaaga acaaaatgag cactttgaca tactctatac cggatttctg 180  
 ggaagcgaaa aacaacaaat aacaatagag aaaataatta aattaataaa atttgaaaaa 240  
 attgtaattg atcctgtggt tgctgacgat ggagaaattt accctatatt tgataataaa 300  
 ataattagtg gatthagaaa aatcataaaag tacgcaaaca taataacacc caatatcaca 360  
 gaacttgaaa tgctaagcaa aagctcaaaa cttaacaaca aagatgatat cataaaagca 420  
 atattaaatc ttgatacaaa agcgacggta gttgttacaa gcgttaaaaag gggaaatctc 480  
 ttgggaaaca tttgctacaa tcctaaaaac aaagaatact cggagttttt tttagaagga 540  
 ttagaacaaca atttcagtgg aacaggagat ttatttacca gcttacttat aggatatttg 600  
 gaaaaatttg aaacagagca agccttagaa aaaacaacaa aggctattca cctaataata 660  
 aaagagtcaa ttaaagaaaa tgtttcacaaa aaagaagggg tccgaattga aaatttctta 720  
 aaaaatacat tttga 735

<210> 508

&lt;211&gt; 256

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 508

```

Met Gly Leu Tyr Leu Lys Leu Leu Arg Gln Ser Ile Asn Leu Lys Ser
  1           5           10           15

Leu Phe Pro Leu Ser Val Leu Phe Phe Ser Cys Asn Val Val Asp Thr
      20           25           30

Asp Phe Ser Val Leu Glu Phe Lys Val Ala Asn Phe Asn Leu Asn Asp
      35           40           45

Asp Phe Ser Gln Gly Leu Leu Asp Ser Ala Tyr Asn Ile Leu Asn Arg
      50           55           60

Ser Phe Asp Leu Ile Ile Ile Lys Asn Leu Lys Asn Lys Asn Val Leu
      65           70           75           80

Asp Leu Ile Asn Asn Arg Val Leu Phe Arg Ala Phe Lys Asn Ala Tyr
      85           90           95

Phe Ile Asp Gln Gly Ser Gly Leu Ser Val Ser Ile Leu Ser Lys Arg
      100           105           110

Lys Ile Asn Ile Lys Val Leu Ser Val Met Gln Asp Ser Cys Asp Leu
      115           120           125

Lys Leu Gly Leu Leu Val Asp Phe Lys Phe Glu Asn Asn His Tyr Gly
      130           135           140

Ile Val Ile Tyr Asn Leu Ser Lys Asp Phe Ile Lys Ser Ile Ala Asn
      145           150           155           160

Leu Gln Ile Ser Glu Gln Ile Leu Tyr Leu Lys Ala Gln Met Asp Lys
      165           170           175

Leu Met Phe Ile Leu Asp Glu Ser Glu Phe Val Ile Phe Asp Leu Leu
      180           185           190

Ile Lys Asn Gly Phe Phe Ser Leu Ile Asn Asp Ser Asn Tyr Thr Ser
      195           200           205

Met Leu Ala Asn Lys Ile Asp Phe Arg Val Phe Ser Asn Phe Phe Ala
      210           215           220

Arg Val Ser Leu Tyr Ser Phe Met Phe Val Ile Ala Asp Tyr Leu His
      225           230           235           240

Ser Asn Tyr Val Val Glu Asn Phe Pro Gln Lys Ile Val Ile Asn Glx
      245           250           255

```

&lt;210&gt; 509

&lt;211&gt; 230

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 509

Cys Asn Val Val Asp Thr Asp Phe Ser Val Leu Glu Phe Lys Val Ala  
 1 5 10 15

Asn Phe Asn Leu Asn Asp Asp Phe Ser Gln Gly Leu Leu Asp Ser Ala  
 20 25 30

Tyr Asn Ile Leu Asn Arg Ser Phe Asp Leu Ile Ile Ile Lys Asn Leu  
 35 40 45

Lys Asn Lys Asn Val Leu Asp Leu Ile Asn Asn Arg Val Leu Phe Arg  
 50 55 60

Ala Phe Lys Asn Ala Tyr Phe Ile Asp Gln Gly Ser Gly Leu Ser Val  
 65 70 75 80

Ser Ile Leu Ser Lys Arg Lys Ile Asn Ile Lys Val Leu Ser Val Met  
 85 90 95

Gln Asp Ser Cys Asp Leu Lys Leu Gly Leu Leu Val Asp Phe Lys Phe  
 100 105 110

Glu Asn Asn His Tyr Gly Ile Val Ile Tyr Asn Leu Ser Lys Asp Phe  
 115 120 125

Ile Lys Ser Ile Ala Asn Leu Gln Ile Ser Glu Gln Ile Leu Tyr Leu  
 130 135 140

Lys Ala Gln Met Asp Lys Leu Met Phe Ile Leu Asp Glu Ser Glu Phe  
 145 150 155 160

Val Ile Phe Asp Leu Leu Ile Lys Asn Gly Phe Phe Ser Leu Ile Asn  
 165 170 175

Asp Ser Asn Tyr Thr Ser Met Leu Ala Asn Lys Ile Asp Phe Arg Val  
 180 185 190

Phe Ser Asn Phe Phe Ala Arg Val Ser Leu Tyr Ser Phe Met Phe Val  
 195 200 205

Ile Ala Asp Tyr Leu His Ser Asn Tyr Val Val Glu Asn Phe Pro Gln  
 210 215 220

Lys Ile Val Ile Asn Glx  
 225 230

&lt;210&gt; 510

&lt;211&gt; 768

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 510

atgggcttgt atttgaagtt gttgagacaa agtatcaact tgaagagttt atttccgctt 60  
 agtgttttat ttttttctg taatgttgta gatacagatt ttagtgtttt ggagtttaag 120  
 gttgcaaat ttaatttaa tgatgatttt tctcaagggt tacttgattc tgcttataat 180

```

attctaaatc gaagttttga ttttaataatt attaagaatc ttaagaataa aaatgttctt 240
gatttaatta ataatagagt tttattttaga gcttttaaga atgcttattt tattgatcaa 300
ggtagtggcc tttctgttag cattctttct aagcgcaaaa taaatattaa agttttaagt 360
gtaatgcaag attcttgcca tttaaaatta ggattgcttg tggattttaa atttgagaat 420
aatcactatg gtattgttat ttataattta agcaaggatt ttattaaaag tattgccaat 480
ttgcaaatta gtgaacaaat tttatattta aaagcccaaa tggataaatt gatgtttatt 540
ttagatgaat ctgaatttgt tatttttgat ttattaatca aaaatggatt ttttagctta 600
ataaatgatt caaactacac ttcaatgtta gcaataaaaa ttgatttttag agttttttct 660
aatttttttg ctagggtttc tttatattca tttatgtttg taattgcaga ttatttgcac 720
agcaattatg ttgttgagaa ttttcctcaa aaaatagtta tcaattga 768

```

<210> 511  
 <211> 690  
 <212> DNA  
 <213> Homo sapiens

```

<400> 511
tgtaatgttg tagatacaga ttttagtggt ttggagttta aggttgcaaa ttttaattta 60
aatgatgatt tttctcaagg gttacttgat tctgcttata atattctaaa tcgaagtttt 120
gatttaataa ttattaagaa tcttaagaat aaaaatgttc ttgatttaat taataataga 180
gttttattta gagcttttaa gaatgcttat tttattgatc aaggtagtgg cttttctggt 240
agcattcttt ctaagcgcaa aataaatatt aaagttttta gtgtaatgca agattcttgc 300
gatttaaaat taggattgct tgtggatttt aaatttgaga ataatcacta tggatttgtt 360
atttataatt taagcaagga ttttattaaa agtattgcca atttgcaaat tagtgaacaa 420
attttatatt taaaagccca aatggataaa ttgatgttta ttttagatga atctgaattt 480
gttatttttg atttattaat caaaaatgga ttttttagct taataaatga ttcaaactac 540
acttcaatgt tagcaaataa aattgatttt agagtttttt ctaatttttt tgctagggtt 600
tctttatatt catttatgtt tgtaattgca gattatttgc atagcaatta tgttggtgag 660
aattttcctc aaaaaatagt tatcaattga 690

```

<210> 512  
 <211> 261  
 <212> PRT  
 <213> Homo sapiens

```

<400> 512
Met Lys Thr Phe Val Ile Ile Gly Leu Ser Asn Leu Gly Ile His Leu
  1             5             10             15

Leu Glu Asp Leu Ser Arg Leu Asp Cys Gln Ile Ile Ile Asp Thr
      20             25             30

Ser Lys Glu Leu Ile Glu Glu Tyr Asp Val Ile Ser Thr Glu Ser Phe
      35             40             45

Val Val Glu Gln Phe Thr Lys Asn Ala Leu Lys Arg Ile Ile Pro Val
      50             55             60

Asp Thr Asp Ala Val Val Ile Asp Phe Asp Asp Asp Leu Gly Lys Ser
      65             70             75             80

Ala Leu Val Thr His Tyr Cys Asn Leu Leu Gly Leu Lys Glu Ile Cys
      85             90             95

Val Lys Thr Glu Asn Arg Asp Asp Ala Glu Ile Leu Lys Thr Leu Gly
      100            105            110

Ala Thr Lys Ile Ile Phe Pro Ser Lys Asp Ala Ala Arg Arg Leu Thr

```

115		120		125
Pro Leu Leu Val Ser Pro Asn Leu Ser Thr Tyr Asn Ile Ile Gly Tyr				
130		135		140
Asp Ile Ile Val Ala Glu Thr Val Ile Pro Lys Glu Tyr Val Gly Lys				
145		150		155
Thr Leu Phe Glu Ala Asp Leu Arg Arg Glu Cys Gly Ile Thr Val Ile				
		165		170
Ala Val Arg Asn Leu Ser Asn Ser Arg Tyr Glu Phe Val Asp Gly Asp				
		180		185
Tyr Phe Phe Leu Lys Asp Asp Lys Ile Val Ile Cys Gly Lys Pro Asp				
		195		200
Ser Ile Glu Asn Phe Thr Asn Asn Lys Asp Leu Ile Lys Asp Leu Ile				
		210		215
Ser Gly Ser Lys Glu Asp Glu Asn Leu Asn Lys Asp Ala Glu Lys Lys				
		225		230
Ser Arg Phe Leu Gly Ile Phe Asn Phe Met Lys Ile Phe Gln Lys Asp				
		245		250
Arg Lys Asp Asn Glx				
		260		
<210> 513				
<211> 237				
<212> PRT				
<213> Homo sapiens				
<400> 513				
Cys Gln Ile Ile Ile Ile Asp Thr Ser Lys Glu Leu Ile Glu Glu Tyr				
1		5		10
Asp Val Ile Ser Thr Glu Ser Phe Val Val Glu Gln Phe Thr Lys Asn				
		20		25
Ala Leu Lys Arg Ile Ile Pro Val Asp Thr Asp Ala Val Val Ile Asp				
		35		40
Phe Asp Asp Asp Leu Gly Lys Ser Ala Leu Val Thr His Tyr Cys Asn				
		50		55
Leu Leu Gly Leu Lys Glu Ile Cys Val Lys Thr Glu Asn Arg Asp Asp				
		65		70
Ala Glu Ile Leu Lys Thr Leu Gly Ala Thr Lys Ile Ile Phe Pro Ser				
		85		90
Lys Asp Ala Ala Arg Arg Leu Thr Pro Leu Leu Val Ser Pro Asn Leu				
		100		105
Ser Thr Tyr Asn Ile Ile Gly Tyr Asp Ile Ile Val Ala Glu Thr Val				
		115		120
				125



Ile Pro Lys Glu Tyr Val Gly Lys Thr Leu Phe Glu Ala Asp Leu Arg  
 130 135 140

Arg Glu Cys Gly Ile Thr Val Ile Ala Val Arg Asn Leu Ser Asn Ser  
 145 150 155 160

Arg Tyr Glu Phe Val Asp Gly Asp Tyr Phe Phe Leu Lys Asp Asp Lys  
 165 170 175

Ile Val Ile Cys Gly Lys Pro Asp Ser Ile Glu Asn Phe Thr Asn Asn  
 180 185 190

Lys Asp Leu Ile Lys Asp Leu Ile Ser Gly Ser Lys Glu Asp Glu Asn  
 195 200 205

Leu Asn Lys Asp Ala Glu Lys Lys Ser Arg Phe Leu Gly Ile Phe Asn  
 210 215 220

Phe Met Lys Ile Phe Gln Lys Asp Arg Lys Asp Asn Glx  
 225 230 235

<210> 514

<211> 783

<212> DNA

<213> Homo sapiens

<400> 514

```

atgaaaacat ttgttattat tggacttagt aatttaggca ttcacttact tgaagattta 60
agcaggcttg attgtcaaat tattattata gatacatcta aagagcttat tgaagaatat 120
gatgtgatat ctacagaaag ctttgttggt gagcaattca ctaaaaatgc tttgaaaaga 180
ataattccag tagatacaga cgctgttggt attgattttg atgatgatct tggcaaaagt 240
gctcttggtta ctactattg taatctttta gggttgaaag aaatatgcgt taagacagaa 300
aatagagatg atgctgaaat cttaaaaact cttggggcaa caaaaattat atttccaagt 360
aaagatgctg caagaagatt aactccatta ttagtatctc caaatctttc aacttataat 420
attattgggt atgatattat tgttgctgaa actgttatct ccaaagaata tgttggtaaa 480
actctttttg aagccgatct tagaagagaa tgtgggatta cagttattgc tgttagaaat 540
ttaagtaatt ctaggatga atttgttgat ggcgattatt tttttttaaa agatgataaa 600
attgtaattt gtggtaaacc agatagcatt gaaaatttta caaataataa agatttaatt 660
aaagatttaa ttcaggctc taaagaggat gaaaatttaa ataaagatgc tgagaaaaaa 720
tctagatttt tagggatttt caattttatg aaaatttttc aaaaagatcg taaggataat 780
tag 783

```

<210> 515

<211> 711

<212> DNA

<213> Homo sapiens

<400> 515

```

tgtcaaatta ttattataga tacatctaaa gagcttattg aagaatatga tgtgatattc 60
acagaaagct ttgttggtga gcaattcact aaaaatgctt tgaaaagaat aattccagta 120
gatacagacg ctgttggtat tgattttgat gatgatcttg gcaaaagtgc tcttggtact 180
cactattgta atcttttagg tttgaaagaa atatgcgtta agacagaaaa tagagatgat 240
gctgaaatct taaaaactct tggggcaaca aaaattatat ttccaagtaa agatgctgca 300
agaagattaa ctccattatt agtatctcca aatctttcaa cttataatat tattgggtat 360
gatattattg ttgctgaaac tgttattccc aaagaatatg ttggtaaaac tctttttgaa 420
gccgatctta gaagagaatg tgggattaca gttattgctg ttagaaattt aagtaattct 480
aggatgaat ttgttgatgg cgattatttt tttttaaaag atgataaaat tgtaatttgt 540

```

ggtaaaccag atagcattga aaattttaca aataataaag atttaattaa agattttaatt 600  
 tcaggctcta aagaggatga aaattttaat aaagatgctg agaaaaaatc tagatttttta 660  
 gggattttca attttatgaa aatttttcaa aaagatcgta aggataatta g 711

<210> 516

<211> 223

<212> PRT

<213> Homo sapiens

<400> 516

Met	Leu	Ile	Ala	Arg	Ile	Met	Asn	Ile	Asn	Thr	Leu	Phe	Tyr	Gly	Met	1	5	10	15
Ile	Ile	Ile	Ile	Phe	Ala	Leu	Ile	Ser	Cys	Asn	His	Lys	Asn	Ile	Gln	20	25	30	
Tyr	Asp	Lys	Arg	Ile	Lys	Lys	Phe	Leu	Asp	Lys	Asn	Lys	Ile	Glu	Tyr	35	40	45	
Lys	Ile	Asp	Ser	Glu	Asn	Asp	Phe	Ile	Ala	Phe	Lys	Asp	Ile	Asn	Asn	50	55	60	
Asn	Glu	Lys	Glu	Glu	Val	Ile	Ile	Arg	Ser	Arg	Leu	Asn	Ser	Tyr	Lys	65	70	75	80
Asn	Ser	Lys	Ile	Arg	Glu	Ile	Phe	Gly	Ile	Val	Lys	Val	Phe	Asp	Ile	85	90	95	
Asn	Thr	Pro	Lys	Ile	Lys	Glu	Ile	Ser	Asp	Ser	Leu	Met	Ser	Asp	Ser	100	105	110	
Tyr	Asn	Asn	Arg	Val	Phe	Gly	Ser	Trp	Glu	Ile	Ile	His	Asn	Ala	Glu	115	120	125	
Arg	Gly	Ile	Asn	Ser	Leu	Val	Tyr	Ile	Val	Lys	Ala	Glu	Glu	Phe	Ala	130	135	140	
Asn	Asp	Thr	Phe	Leu	Leu	Asp	Ala	Ile	Asp	Glu	Ile	Ala	Ser	Thr	Ile	145	150	155	160
Ser	Ile	Phe	Lys	Lys	Ile	Ile	Thr	Thr	Asn	Asn	Glu	Asn	Ile	Asp	Asn	165	170	175	
Asn	Glu	Glu	Asn	Asn	Asn	Thr	Asn	Glu	Ser	Asn	Glu	Gln	Pro	Thr	Leu	180	185	190	
Lys	Gln	Glu	Lys	Thr	Asn	Ser	Thr	Lys	Glu	Ser	Asn	Asn	Glu	Leu	Lys	195	200	205	
Glu	Asp	Gln	Ile	Glu	Glu	Glu	Leu	Gln	Glu	Ile	Lys	Ala	Gln	Glx		210	215	220	

<210> 517

<211> 198

<212> PRT

<213> Homo sapiens

<400> 517

Cys Asn His Lys Asn Ile Gln Tyr Asp Lys Arg Ile Lys Lys Phe Leu  
1 5 10 15

Asp Lys Asn Lys Ile Glu Tyr Lys Ile Asp Ser Glu Asn Asp Phe Ile  
20 25 30

Ala Phe Lys Asp Ile Asn Asn Asn Glu Lys Glu Glu Val Ile Ile Arg  
35 40 45

Ser Arg Leu Asn Ser Tyr Lys Asn Ser Lys Ile Arg Glu Ile Phe Gly  
50 55 60

Ile Val Lys Val Phe Asp Ile Asn Thr Pro Lys Ile Lys Glu Ile Ser  
65 70 75 80

Asp Ser Leu Met Ser Asp Ser Tyr Asn Asn Arg Val Phe Gly Ser Trp  
85 90 95

Glu Ile Ile His Asn Ala Glu Arg Gly Ile Asn Ser Leu Val Tyr Ile  
100 105 110

Val Lys Ala Glu Glu Phe Ala Asn Asp Thr Phe Leu Leu Asp Ala Ile  
115 120 125

Asp Glu Ile Ala Ser Thr Ile Ser Ile Phe Lys Lys Ile Ile Thr Thr  
130 135 140

Asn Asn Glu Asn Ile Asp Asn Asn Glu Glu Asn Asn Asn Thr Asn Glu  
145 150 155 160

Ser Asn Glu Gln Pro Thr Leu Lys Gln Glu Lys Thr Asn Ser Thr Lys  
165 170 175

Glu Ser Asn Asn Glu Leu Lys Glu Asp Gln Ile Glu Glu Glu Leu Gln  
180 185 190

Glu Ile Lys Ala Gln Glx  
195

<210> 518

<211> 669

<212> DNA

<213> Homo sapiens

<400> 518

```

atgctaattg caagaataat gaatattaat acattattct acggcatgat cattatcatt 60
tttgactca tttcttgcaa tcataagaat atacagtacg acaagagaat taaaaaattt 120
ttagataaaa acaaaattga atataaaata gactcagaaa atgactttat agcattttaa 180
gatataaaca ataacgaaaa agaagaagta atcatcagat caagactaaa ctcatataaa 240
aattcaaaga taagagaaat atttggaatt gttaaagtat ttgatataaa cacaccaaaa 300
ataaaagaaa tatctgactc gcttatgagc gatagttata ataacagagt atttggatcg 360
tgaggagatta ttcataatgc agaaagagga atcaactctt tggatatat tgtaaaagca 420
gaagaatttg caaatgatac atttttgctt gatgcaattg atgagattgc ctcaacaata 480
agtattttca aaaaaataat aacaaccaac aacgaaacaa ttgataataa tgaagaaaat 540
aacaatacaa atgaatcaaa tgaacagccc accttaaagc aagaaaaaac aaattcaaca 600
aaagaatcta ataacgaact taaagaagat caaatagaag aagaacttca agaaatcaaa 660
gcccaataa 669

```

<210> 519  
 <211> 594  
 <212> DNA  
 <213> Homo sapiens

<400> 519  
 tgcaatcata agaatatata gtacgacaag agaattaaaa aattttttaga taaaaacaaa 60  
 attgaatata aaatagactc agaaaatgac tttatagcat ttaaagatat aaacaataac 120  
 gaaaaagaag aagtaatcat cagatcaaga ctaaactcat ataaaaattc aaagataaga 180  
 gaaatatttg gaattgttaa agtatttgat ataaacacac caaaaataaa agaaatatct 240  
 gactcgctta tgagcgatag ttataataac agagtatttg gatcgtggga gattattcat 300  
 aatgcagaaa gaggaatcaa ctcttttgga tatattgtaa aagcagaaga atttgcaaat 360  
 gatacatatt tgcttgatgc aattgatgag attgcctcaa caataagtat tttcaaaaaa 420  
 ataataacaa ccaacaacga aaacattgat aataatgaag aaaataacaa tacaatgaa 480  
 tcaaatgaac agcccacctt aaagcaagaa aaaacaaatt caacaaaaga atctaataac 540  
 gaacttaag. aagatcaaat agaagaaga cttcaagaaa tcaaagccca ataa 594

<210> 520  
 <211> 176  
 <212> PRT  
 <213> Homo sapiens

<400> 520  
 Met Arg Val Asp Leu Leu Pro Leu Val Glu Leu Ser Leu Tyr Ile Asn  
 1 5 10 15  
 Leu Ser Phe Cys Cys Lys Asp Phe Ser Ile Phe Asn Arg Ile Leu Glu  
 20 25 30  
 Glu Leu Lys Cys His Leu Ile Leu Leu Gly His Pro Ile Ile Lys Thr  
 35 40 45  
 Leu Tyr Ile Lys His Val Asp Phe Cys Leu Ser Arg Gln Asp Asn Leu  
 50 55 60  
 Lys Phe Ile Phe Thr Ser Leu Ser Lys Tyr Ile Asn Leu Glu Leu Leu  
 65 70 75 80  
 Glu Glu Phe Thr Leu Glu Ile Ile Pro Gly Tyr Val Asp Phe Glu Lys  
 85 90 95  
 Phe Lys Leu Leu Asp Glu Phe Cys Ile Thr Arg Ile Asn Leu Asn Val  
 100 105 110  
 Gln Ser Phe Ser Leu Glu Phe Arg Lys Ile Val Gly Ile Pro Glu Ile  
 115 120 125  
 Ser Tyr Lys Lys Leu Asn Ile Leu Ile Asn Asn Ile Arg Lys Phe Pro  
 130 135 140  
 Phe Asp Leu Asn Ile Asp Met Thr Val Asn Met Pro Leu Gln Lys Lys  
 145 150 155 160  
 Ser His Leu Lys Arg Asp Leu Gln Arg Ile Ala Phe Ile Tyr Ala Glx  
 165 170 175

<210> 521  
 <211> 156  
 <212> PRT  
 <213> Homo sapiens

<400> 521  
 Cys Lys Asp Phe Ser Ile Phe Asn Arg Ile Leu Glu Glu Leu Lys Cys  
 1 5 10 15  
 His Leu Ile Leu Leu Gly His Pro Ile Ile Lys Thr Leu Tyr Ile Lys  
 20 25 30  
 His Val Asp Phe Cys Leu Ser Arg Gln Asp Asn Leu Lys Phe Ile Phe  
 35 40 45  
 Thr Ser Leu Ser Lys Tyr Ile Asn Leu Glu Leu Leu Glu Glu Phe Thr  
 50 55 60  
 Leu Glu Ile Ile Pro Gly Tyr Val Asp Phe Glu Lys Phe Lys Leu Leu  
 65 70 75 80  
 Asp Glu Phe Cys Ile Thr Arg Ile Asn Leu Asn Val Gln Ser Phe Ser  
 85 90 95  
 Leu Glu Phe Arg Lys Ile Val Gly Ile Pro Glu Ile Ser Tyr Lys Lys  
 100 105 110  
 Leu Asn Ile Leu Ile Asn Asn Ile Arg Lys Phe Pro Phe Asp Leu Asn  
 115 120 125  
 Ile Asp Met Thr Val Asn Met Pro Leu Gln Lys Lys Ser His Leu Lys  
 130 135 140  
 Arg Asp Leu Gln Arg Ile Ala Phe Ile Tyr Ala Glx  
 145 150 155

<210> 522  
 <211> 528  
 <212> DNA  
 <213> Homo sapiens

<400> 522  
 atgagagtag atcttttacc tcttgctgag ttaagtcttt atattaattt gtcattttgt 60  
 tgtaaagatt ttagcatttt taatagaatt ttagaggaat taaaatgtca tttaatcttg 120  
 ctgggtcatc caattataaa aacactttac attaagcacg tagatttttg tttatctagg 180  
 caagataatt taaaatttat tttcacttct ttgtccaagt atattaattt ggagttatta 240  
 gaagaattta ctttagaaat tattccgggt tatgttgatt ttgaaaaatt caaacttttg 300  
 gatgaatttt gtattactag aattaatctt aatgttcaaa gtttttcttt agagttttaga 360  
 aagattgtgg ggatacccg aatttcttat aaaaaattga atattttgat taacaatatt 420  
 agaaagtttc cttttgattt gaattattgac atgactgtca atatgccttt gcaaaaaaaa 480  
 tctcatctca agcgagattt gcaaagaatt gctttcatat atgcctga 528

<210> 523  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 523

```

tgtaaagatt ttagcatttt taatagaatt ttagaggaat taaaatgtca tttaatcttg 60
ctgggtcatc caattataaa aacactttac attaagcacg tagatttttg tttatctagg 120
caagataatt taaaatttat tttcacttct ttgtccaagt atattaattt ggagttatta 180
gaagaattta ctttagaaat tattccgggt tatgttgatt ttgaaaaatt caaacttttg 240
gatgaatttt gtattactag aattaatctt aatgttcaaa gtttttcttt agagtttaga 300
aagattgtgg ggatacccga aatttcttat aaaaaattga atattttgat taacaatatt 360
agaaagtttc cttttgattt gaatattgac atgactgtca atatgccttt gcaaaaaaaaa 420
tctcatctca agcgagattt gcaaagaatt gctttcatat atgcctga 468

```

&lt;210&gt; 524

&lt;211&gt; 274

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 524

```

Met Leu Lys Thr Leu Thr Lys Ile Ile Thr Ile Ser Cys Leu Ile Val
  1          5          10          15

Gly Cys Ala Ser Leu Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr
          20          25          30

Leu Met Glu Leu Leu Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu
          35          40          45

Ile Lys Asn Arg Ser Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser
          50          55          60

Val Leu Gly Leu Ile Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn
          65          70          75          80

Asn Asp Phe Ala Leu Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe
          85          90          95

Trp Gly Ile His Lys Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe
          100          105          110

Thr Asn Pro Lys Trp Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro
          115          120          125

Asn Lys Ala Arg Thr Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala
          130          135          140

Lys Asp Asn Asn Met Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys
          145          150          155          160

Asn Glu Met Phe Phe Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn
          165          170          175

Gln Ile Val Ser Ser Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu
          180          185          190

Ser Ile Asn Ser Leu Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile
          195          200          205

Lys Thr Asn Asn Pro Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile
          210          215          220

```

Pro Thr Val Leu Thr Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile  
225 230 235 240

Lys Thr Thr Ile Lys Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile  
245 250 255

Gln Lys Ser Ser Val Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile  
260 265 270

Gln Thr

<210> 525

<211> 257

<212> PRT

<213> Homo sapiens

<400> 525

Cys Ala Ser Leu Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr Leu  
1 5 10 15

Met Glu Leu Leu Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu Ile  
20 25 30

Lys Asn Arg Ser Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser Val  
35 40 45

Leu Gly Leu Ile Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn Asn  
50 55 60

Asp Phe Ala Leu Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe Trp  
65 70 75 80

Gly Ile His Lys Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe Thr  
85 90 95

Asn Pro Lys Trp Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro Asn  
100 105 110

Lys Ala Arg Thr Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala Lys  
115 120 125

Asp Asn Asn Met Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys Asn  
130 135 140

Glu Met Phe Phe Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn Gln  
145 150 155 160

Ile Val Ser Ser Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu Ser  
165 170 175

Ile Asn Ser Leu Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile Lys  
180 185 190

Thr Asn Asn Pro Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile Pro  
195 200 205

Thr Val Leu Thr Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile Lys

210 215 220

Thr Thr Ile Lys Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile Gln  
 225 230 235 240

Lys Ser Ser Val Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile Gln  
 245 250 255

Thr

<210> 526  
 <211> 825  
 <212> DNA  
 <213> Homo sapiens

<400> 526  
 atgttaaaaa cattaacaaa aataattacc atttcatgcc tcatagtggg atgcgcaagc 60  
 ctgccttaca ctccctccaaa acaaaatcta aattacttaa tgggaactttt acctggcgca 120  
 aatttatacg cccatgtaaa tttaattaaa aacagggtcta ttataaactc ttttaagccct 180  
 aaatataaat cagttcttgg gcttataaagc aattttatact ttagctataa aaaagaaaaat 240  
 aacgattttg ctctactaat aatgggtaat ttcccaaaaag atattttctg gggaaattcat 300  
 aaaaatagaa atacagaatc aataggcaat atattttacaa atccaaaatg gaaacttaaa 360  
 aattcaaata tatacattat tccaaacaaa gctagaacta gcattgcaat aacccaaaaa 420  
 gatataaccg caaaagacaa taatatgcta acaacaaaat atattgggga aatagaaaaa 480  
 aatgaaatgt ttttttggat tcaagatcca acattattgc tcccaaacca aatagtaagc 540  
 agcaaaaatt taattccctt tagcagtggg actttgtcta taaacagctt aaatcaagaa 600  
 gaatatattt ttaaatecctt aatcaaaaac aataatccac caatactaaa aatattgtca 660  
 aaaaagttaa ttccaaccgt cttgacaaac atgacaaaac tcacaatatc aagccacata 720  
 aagaccacaa taaaagacca aaatacggtt gaaatagaat ttaatatattca aaaatctagt 780  
 gttgaaagcc ttatagaaaa actagcttca aatattcaaa cctaa 825

<210> 527  
 <211> 774  
 <212> DNA  
 <213> Homo sapiens

<400> 527  
 tgcgcaagcc tgccttacac tccctccaaa caaaatctaa attacttaat ggaactttta 60  
 cctggcgcaa atttatacgc ccatgtaaat ttaattaaaa acagggtctat ttataactct 120  
 ttaagcccta aatataaatc agttcttggg cttataagca atttataact tagctataaa 180  
 aaagaaaata acgattttgc tctactaata atgggtaatt tcccaaaaaga tattttctgg 240  
 ggaattcata aaaatagaaa tacagaatca ataggcaata tatttacaaa tccaaaatgg 300  
 aaacttaaaa attcaaatat atacattatt ccaaaacaaag ctagaactag cattgcaata 360  
 acccaaaaag atataaccgc aaaagacaat aatatgctaa caacaaaata tattggggaa 420  
 atagaaaaaa atgaaatgtt tttttggatt caagatccaa cattattgct cccaaaccaa 480  
 atagtaagca gcaaaaattt aattcccttt agcagtggaa ctttgtctat aaacagctta 540  
 aatcaagaag aatatatttt taaatcctta atcaaaaacaa ataatccacc aatactaaaa 600  
 atattgtcaa aaaagttaat tccaaccgtc ttgacaaaac tgacaaacct cacaatatca 660  
 agccacataa agaccacaat aaaagaccaa aatacggttg aaatagaatt taatatattca 720  
 aaatctagtg ttgaaagcct tatagaaaaa ctagcttcaa atattcaaac ctaa 774

<210> 528  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 528



Met Asn Thr Lys Thr Leu Tyr Leu Ile Ser Leu Ile Leu Leu Ala Cys  
 1 5 10 15  
 Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro Lys  
 20 25 30  
 Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys Asp  
 35 40 45  
 Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp Tyr  
 50 55 60  
 Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu Lys  
 65 70 75 80  
 Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile Leu  
 85 90 95  
 Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile Asn  
 100 105 110  
 Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys  
 115 120

<210> 529  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 529  
 Cys Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro  
 1 5 10 15  
 Lys Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys  
 20 25 30  
 Asp Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp  
 35 40 45  
 Tyr Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu  
 50 55 60  
 Lys Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile  
 65 70 75 80  
 Leu Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile  
 85 90 95  
 Asn Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys  
 100 105

<210> 530  
 <211> 372  
 <212> DNA  
 <213> Homo sapiens

<400> 530  
 atgaatacaa aaacattata tttaatatcc ttaattcttt tagcttgcaa taaaaataac 60

```

aaaattcctc tcattcaaaa attagatttg cccaaaagca gcattcttgg ctttagcaat 120
aaaatgggca taataataaa agattatgct tttcttagta aaagcactaa gaaaaatagc 180
gaattggatt atgattacgc aattctactc agaaaagacg aagtcgtaaa aattgaaaaa 240
acactagaaa aaacagagcg ctatggaatt gaaggaaatt ggatcctagt caattacaag 300
ggaactaaaa gatacatctt tagcaaagac atcaatatag tcaacaattt aataattgat 360
cattcctaaat ag                                     372

```

<210> 531  
 <211> 327  
 <212> DNA  
 <213> Homo sapiens

```

<400> 531:
tgcaataaaaa ataacaaaat tcctctcatt caaaaattag atttgcccaa aagcagcatt 60
cttggtcttta gcaataaaaat gggcataata ataaaagatt atgcttttct tagtaaaagc 120
actaagaaaaa atagcgaatt ggattatgat tacgcaattc tactcagaaa agacgaagtc 180
gtaaaaatttg aaaaaacact agaaaaaaca gagcgctatg gaattgaagg aaattggatc 240
ctagtcaattt acaagggaac taaaagatac atcttttagca aagacatcaa tatagtcaac 300
aatttaataa ttgatcattc taaatag                                     327

```

<210> 532  
 <211> 155  
 <212> PRT  
 <213> Homo sapiens

```

<400> 532
Met Lys Lys Leu Ile Ile Ile Phe Thr Leu Phe Leu Ser Gln Ala Cys
 1             5             10             15
Asn Leu Ser Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys Ile
      20             25             30
Leu Tyr Ser Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn His
      35             40             45
Leu Glu Ile Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala Ile
      50             55             60
Lys Leu Gly Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr Thr
      65             70             75             80
Pro Met Gln Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr Arg
      85             90             95
Glu Ile Leu Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala Trp
      100            105            110
Leu Asn Ser Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr Asp
      115            120            125
Lys Ile Gly Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile Phe
      130            135            140
Val Val Leu Phe Gly Lys Arg Lys Tyr Lys Asn
      145            150            155

```

<210> 533  
 <211> 140

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 533

Cys Asn Leu Ser Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys  
 1 5 10 15

Ile Leu Tyr Ser Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn  
 20 25 30

His Leu Glu Ile Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala  
 35 40 45

Ile Lys Leu Gly Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr  
 50 55 60

Thr Pro Met Gln Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr  
 65 70 75 80

Arg Glu Ile Leu Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala  
 85 90 95

Trp Leu Asn Ser Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr  
 100 105 110

Asp Lys Ile Gly Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile  
 115 120 125

Phe Val Val Leu Phe Gly Lys Arg Lys Tyr Lys Asn  
 130 135 140

&lt;210&gt; 534

&lt;211&gt; 468

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 534

atgaaaaaat tgattataat ttttacactg tttttatctc aagcatgcaa tttaagtaca 60  
 atgcataaaa tagatacaaa agaagatatg aaaattctat attcagaaat tgctgaattg 120  
 agaaaaaaat taaatctaaa ccattctagaa atagatgata cccttgaaaa agttgcaaaa 180  
 gaatatgccca ttaaactggg agaaaataga acaataactc acaccctttt tggcacaacc 240  
 ccaatgcaaa gaatacataa atacgatcaa tcctttaatt taacaagaga aatactggca 300  
 tcaggaattg aacttaacag agtagttaat gcatggctta atagtccaag ccacaaagaa 360  
 gctcttatta atacagatac cgataaaaata ggtggctata gattaaaaac gactgacaat 420  
 atagatatat ttgtagttct ttttgaaaa agaaaatata agaattga 468

&lt;210&gt; 535

&lt;211&gt; 423

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 535

tgcaatttaa gtacaatgca taaaatagat acaaaagaag atatgaaaat tctatattca 60  
 gaaattgctg aattgagaaa aaaattaaat ctaaaccatc tagaaataga tgataccctt 120  
 gaaaaagttg caaaagaata tgccattaaa ctgggagaaa atagaacaat aactcacacc 180  
 ctttttggca caacccaat gcaaagaata cataaatacg atcaatcctt taattttaaca 240  
 agagaaatac tggcatcagg aattgaactt aacagagtag ttaatgcatg gcttaatagt 300  
 ccaagccaca aagaagctct tattaataga gataccgata aaatagggtg ctatagatta 360

aaaacgactg acaatataga tatatttgta gttctttttg gaaaaagaaa atataagaat 420  
tga 423

<210> 536

<211> 157

<212> PRT

<213> Homo sapiens

<400> 536

Met Ile Arg Val Leu Leu Gly Ser Leu Ala Val Ser Phe Leu Phe Ser  
1 5 10 15

Ile Cys Met Val Phe Leu Asn Tyr Asp Asn Leu Phe Ser Lys Lys Val  
20 25 30

Phe Tyr Phe His Ser Ser Lys Gly Phe Val Ala Asn Leu Arg Tyr Leu  
35 40 45

Arg Asp Glu Gln Asn Leu Lys Asp Asn Leu Asp Leu Leu Val Lys Asp  
50 55 60

Phe Leu Leu Gly Ser Asn Glu Gly Phe Ser Phe Gly Phe Leu Leu Ser  
65 70 75 80

Asp Ser Arg Phe Leu Tyr Ser Phe Leu Lys Asn Gly Val Tyr Tyr Val  
85 90 95

Asn Leu Ser Arg Glu Phe Tyr Asp Ser Phe Asn Asn Gly Asp Tyr Asn  
100 105 110

Glu Ser Asn Glu Ser Phe Asp Val Lys Val Asn Leu Phe Ala Met Ser  
115 120 125

Leu Ile Lys Thr Met Arg Phe Asn Tyr Pro Gly Lys Ile Lys Lys Ile  
130 135 140

Val Ile Leu Val Glu Gly Cys Ile Leu Lys Glu Gln Ser  
145 150 155

<210> 537

<211> 140

<212> PRT

<213> Homo sapiens

<400> 537

Cys Met Val Phe Leu Asn Tyr Asp Asn Leu Phe Ser Lys Lys Val Phe  
1 5 10 15

Tyr Phe His Ser Ser Lys Gly Phe Val Ala Asn Leu Arg Tyr Leu Arg  
20 25 30

Asp Glu Gln Asn Leu Lys Asp Asn Leu Asp Leu Leu Val Lys Asp Phe  
35 40 45

Leu Leu Gly Ser Asn Glu Gly Phe Ser Phe Gly Phe Leu Leu Ser Asp  
50 55 60

Ser Arg Phe Leu Tyr Ser Phe Leu Lys Asn Gly Val Tyr Tyr Val Asn

65						70										80
Leu	Ser	Arg	Glu	Phe	Tyr	Asp	Ser	Phe	Asn	Asn	Gly	Asp	Tyr	Asn	Glu	
				85					90					95		
Ser	Asn	Glu	Ser	Phe	Asp	Val	Lys	Val	Asn	Leu	Phe	Ala	Met	Ser	Leu	
			100					105					110.			
Ile	Lys	Thr	Met	Arg	Phe	Asn	Tyr	Pro	Gly	Lys	Ile	Lys	Lys	Ile	Val	
		115					120					125				
Ile	Leu	Val	Glu	Gly	Cys	Ile	Leu	Lys	Glu	Gln	Ser					
	130					135					140					

```
<210> 538
<211> 474
<212> DNA
<213> Homo sapiens
```

```

<400> 538
atgattaggg tgcttttggg gtctttggca gtaagctttt tgttttctat ttgtatgggt 60
tttttaaat atgataatct tttttcaaaa aaggtttttt attttcattc tagcaaggga 120
tttgttgcta atttaagata tttaagagat gaacaaaatt tgaaagataa ttttagatctt 180
ttagtaaaaag attttctttt aggaagcaat gaagggtttt cttttgggtt tttattaagt 240
gattccaagt ttttatattc ttttttaaa aatggagttt attatgtaa tctttcaaga 300
gaattttatg attcttttaa taatgggtgat tataatgaat ctaatgaatc ttttgatgtt 360
aagggtcaatc tttttgctat gtcttttaata aaaacaatgc gctttaacta tcctggtaag 420
ataaaaaaga ttgttattct tgttgaaggg tgtatcttaa aggagcaaag ttga 474

```

```
<210> 539
<211> 423
<212> DNA
<213> Homo sapiens
```

<400> 539						
tgtatggttt	ttttaaat	tgataatctt	ttttcaaaaa	agggtttttt	ttttcattct	60
agcaagggat	ttgttgctaa	tttaagatat	ttaagagatg	aacaaaaattt	gaaagataat	120
ttagatcttt	tagtaaaaaga	ttttctttta	ggaagcaatg	aagggttttc	ttttgggttt	180
ttattaagtg	attcaagatt	tttatattct	tttttaaaga	atggagttta	ttatgtaaat	240
ctttcaagag	aatttttatga	ttcttttaaat	aatggtgatt	ataatgaatc	taatgaatct	300
tttgatgtta	agggtcaatct	ttttgctatg	tctttaataa	aaacaatgcg	ctttaactat	360
cctggtaaga	taaaaaagat	tgttattctt	gttgagggt	gtatcttaaa	ggagcaaagt	420
tga						423

```
<210> 540
<211> 168
<212> PRT
<213> Homo sapiens
```

```

<400> 540
Met Ala Ile Lys Tyr Ala Arg Glu Asn Asn Ile Pro Phe Leu Gly Ile
  1             5             10             15
Cys Leu Gly Leu Gln Leu Ala Val Ile Glu Phe Ala Arg Asn Val Cys
      20             25             30
Gly Ile Leu Asp Ala Asp Thr Glu Glu Asn Leu Ala Arg Asp Lys Pro
      35             40             45

```

Leu Lys Ser Pro Val Ile His Leu Leu Pro Glu Gln Lys Gly Ile Lys  
 50 55 60

Asp Lys Gly Ala Thr Met Arg Leu Gly Gly Tyr Pro Val Ile Leu Lys  
 65 70 75 80

Lys Asn Thr Ile Ala Phe Lys Leu Tyr Gly Gln Asp Arg Ile Ile Glu  
 85 90 95

Arg Phe Arg His Arg Tyr Glu Val Asn Asn Asp Tyr Ile Asp Leu Phe  
 100 105 110

Ala Lys Asn Gly Leu Ile Val Ser Gly Phe Ser Ser Asp Phe Lys Met  
 115 120 125

Ala Lys Leu Ile Glu Ile Pro Glu Asn Lys Phe Phe Val Ala Cys Gln  
 130 135 140

Phe His Pro Glu Leu Ile Thr Arg Ile Glu Asn Pro Ala Lys Leu Phe  
 145 150 155 160

Leu Gly Leu Ile Lys Ala Cys Ile  
 165

<210> 541

<211> 152

<212> PRT

<213> Homo sapiens

<400> 541

Cys Leu Gly Leu Gln Leu Ala Val Ile Glu Phe Ala Arg Asn Val Cys  
 1 5 10 15

Gly Ile Leu Asp Ala Asp Thr Glu Glu Asn Leu Ala Arg Asp Lys Pro  
 20 25 30

Leu Lys Ser Pro Val Ile His Leu Leu Pro Glu Gln Lys Gly Ile Lys  
 35 40 45

Asp Lys Gly Ala Thr Met Arg Leu Gly Gly Tyr Pro Val Ile Leu Lys  
 50 55 60

Lys Asn Thr Ile Ala Phe Lys Leu Tyr Gly Gln Asp Arg Ile Ile Glu  
 65 70 75 80

Arg Phe Arg His Arg Tyr Glu Val Asn Asn Asp Tyr Ile Asp Leu Phe  
 85 90 95

Ala Lys Asn Gly Leu Ile Val Ser Gly Phe Ser Ser Asp Phe Lys Met  
 100 105 110

Ala Lys Leu Ile Glu Ile Pro Glu Asn Lys Phe Phe Val Ala Cys Gln  
 115 120 125

Phe His Pro Glu Leu Ile Thr Arg Ile Glu Asn Pro Ala Lys Leu Phe  
 130 135 140

Leu Gly Leu Ile Lys Ala Cys Ile  
145 150

<210> 542  
<211> 507  
<212> DNA  
<213> Homo sapiens

<400> 542  
atggctatta aatatgctcg tgagaataat attccctttc ttggaatttg tcttggtttg 60  
cagcttgctg taatagaatt tgctcgtaat gtttgtggaa tacttgatgc tgatacggag 120  
gaaaatttag caagagacaa gcccttataaa agtcctgtta tccatttact tcctgagcaa 180  
aagggaatta aagataaggc cgctacaatg aggccttggtg gatatacctgt gattctttaa 240  
aagaatacaa tagcttttaa actttatggc caagatcgga taattgaaag atttagacat 300  
aggtatgaag tcaataatga ttatatagat ttatttgcaa aaaatgggct tatagtatct 360  
ggattttcaa gtgatttttaa aatggcaaaa ttaatatagaaa ttcctgaaaa taaatttttc 420  
gtagcttgcc agtttcatcc agaacttatt acaagaatag aaaatccagc caagcttttt 480  
ctaggattaa ttaaagcttg tatttga 507

<210> 543  
<211> 459  
<212> DNA  
<213> Homo sapiens

<400> 543  
tgtcttggtt tgcagcttgc tgtaatagaa tttgctcgta atgtttgtgg aatacttgat 60  
gctgatacgg aggaaaattt agcaagagac aagcccttaa aaagtcctgt tatccattta 120  
cttcctgagc aaaaggggaat taaagataag ggcgctacaa tgaggcttgg tggatatacct 180  
gtgattctta aaaagaatac aatagctttt aaactttatg gccaaagatcg gataattgaa 240  
agatttagac ataggtatga agtcaataat gattatatag atttatttgc aaaaaatggg 300  
cttatagtat ctggattttc aagtgtttt aaaatggcaa aattaataga aattcctgaa 360  
aataaatttt tcgtagcttg ccagtttcat ccagaactta ttacaagaat agaaaatcca 420  
gccaaagcttt ttctaggatt aattaaagct tgtatttga 459

<210> 544  
<211> 497  
<212> PRT  
<213> Homo sapiens

<220>  
<221> SITE  
<222> (198)  
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 544  
Met Asn Lys Thr Lys Asn Arg Ser Leu Thr Tyr Phe Ile Ile Leu Ser  
1 5 10 15  
Cys Ile Ser Leu Phe Gly Ala Asn Asn Asn Thr Ile Ser Tyr Ser Ser  
20 25 30  
Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly  
35 40 45  
Asn Lys Ser Asp Gln Ile Asn Thr Ser Lys His Leu Asn Lys Asn Ile  
50 55 60  
Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu

65		70		75		80
Asn Ile Arg Asp Lys Lys Leu Pro Gln Lys Arg Met Asp Glu Asn Asp						
	85			90		95
Leu Lys Ser Val Ile Glu Asn Tyr Glu Asn Lys Ile Lys Asn Ile Glu						
	100			105		110
Lys Leu Leu Lys Thr Lys Asn Gln Lys Thr Ser Glu Asn Glu Asn Lys						
	115			120		125
Lys Ile Glu Ser Ile Glu Lys Lys Ala Lys Lys Tyr Glu Ile Leu Thr						
	130			135		140
Asn Lys Leu Lys Asn Glu Ile Val Glu Ile Lys Lys Leu Leu Asn Lys						
	145			150		155
Lys Ile Lys Pro Lys Glu Asp Glu Asn Tyr Glu Lys Ile Asn Ile Glu						
	165			170		175
Asn Ile Glu Glu Glu Thr Asp Asp Asp Phe Glu Asp Asn Tyr Glu Tyr						
	180			185		190
Asn Asp Glu Ile Glu Xaa Thr Asn Glu Asp Asn Tyr Pro Ser Asn Glu						
	195			200		205
Gly Ile Ile Asn Asn Leu Lys Glu Asn Leu Asn Glu Asn Glu Lys Tyr						
	210			215		220
Tyr Ala Ile Asn Glu Lys Lys Ile Asp Glu Leu Glu Asp Arg Ile Asn						
	225			230		235
Glu Asn Glu Asn Thr Ile Leu Asp Leu Gln Arg Glu Leu Arg Asn Phe						
	245			250		255
Lys Lys Lys Asp Asn Ser Asp Lys Asn Leu Glu Glu Ile Glu Glu Asn						
	260			265		270
Leu Ser Ser Ile Gly Arg Ile Ile Asn Asp Leu Lys Arg Lys Ile Ser						
	275			280		285
Ala Asn Glu Ala Ile Asn Lys Glu Asn Gln Lys Lys Ile Arg Thr Asp						
	290			295		300
Lys His Lys Leu Lys Glu Leu Glu Asp Lys Ile Lys Glu Asn Glu Glu						
	305			310		315
Thr Ile Leu Lys Leu Gln Lys Glu Leu Asn Asn Phe Lys Lys Lys Glu						
	325			330		335
Ile Tyr Gln Lys Pro Leu Asn Glu Glu Thr Phe Thr Pro Ser Ile Thr						
	340			345		350
Ser Lys Asn Asp Asp Leu Glu Glu Asn Lys Lys Leu Lys Lys Glu Tyr						
	355			360		365
Leu Lys Pro Ile Glu Lys Lys Glu Ser Arg Asp Leu Glu Glu Asn Thr						
	370			375		380



Lys Ser Thr Pro Lys Thr Thr Met Ile Lys Thr Ala Asp Phe Gln Ile  
 385 390 395 400  
 Tyr Pro Asp Ile Tyr Leu Asn Asn Tyr Lys Phe Lys Glu Lys Gly Asp  
 405 410 415  
 Gln Phe Ala Phe Lys Lys Glu Asn Thr Tyr Tyr Ile Glu Ile Asp Pro  
 420 425 430  
 Thr Asn Asn Leu Asn Glu Ala Leu Lys Asn His Glu Ile Ile Ser Lys  
 435 440 445  
 Tyr Lys Phe Glu Lys Tyr Phe Ile Asn Pro Ile Leu Lys Asn Lys Glu  
 450 455 460  
 Glu Phe Phe Arg Asn Leu Ile Glu Val Lys Asn Ile His Glu Leu Gly  
 465 470 475 480  
 Ile Met Tyr Lys Asn Leu Lys Pro Glu Phe Lys Gln Ile Lys Ile Ile  
 485 490 495

Lys

<210> 545

<211> 481

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (182)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 545

Cys Ile Ser Leu Phe Gly Ala Asn Asn Asn Thr Ile Ser Tyr Ser Ser  
 1 5 10 15

Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly  
 20 25 30

Asn Lys Ser Asp Gln Ile Asn Thr Ser Lys His Leu Asn Lys Asn Ile  
 35 40 45

Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu  
 50 55 60

Asn Ile Arg Asp Lys Lys Leu Pro Gln Lys Arg Met Asp Glu Asn Asp  
 65 70 75 80

Leu Lys Ser Val Ile Glu Asn Tyr Glu Asn Lys Ile Lys Asn Ile Glu  
 85 90 95

Lys Leu Leu Lys Thr Lys Asn Gln Lys Thr Ser Glu Asn Glu Asn Lys  
 100 105 110

Lys Ile Glu Ser Ile Glu Lys Lys Ala Lys Lys Tyr Glu Ile Leu Thr

115				120				125							
Asn	Lys	Leu	Lys	Asn	Glu	Ile	Val	Glu	Ile	Lys	Lys	Leu	Leu	Asn	Lys
130						135					140				
Lys	Ile	Lys	Pro	Lys	Glu	Asp	Glu	Asn	Tyr	Glu	Lys	Ile	Asn	Ile	Glu
145					150					155					160
Asn	Ile	Glu	Glu	Glu	Thr	Asp	Asp	Asp	Phe	Glu	Asp	Asn	Tyr	Glu	Tyr
				165					170					175	
Asn	Asp	Glu	Ile	Glu	Xaa	Thr	Asn	Glu	Asp	Asn	Tyr	Pro	Ser	Asn	Glu
			180					185					190		
Gly	Ile	Ile	Asn	Asn	Leu	Lys	Glu	Asn	Leu	Asn	Glu	Asn	Glu	Lys	Tyr
	195						200					205			
Tyr	Ala	Ile	Asn	Glu	Lys	Lys	Ile	Asp	Glu	Leu	Glu	Asp	Arg	Ile	Asn
210						215					220				
Glu	Asn	Glu	Asn	Thr	Ile	Leu	Asp	Leu	Gln	Arg	Glu	Leu	Arg	Asn	Phe
225					230					235					240
Lys	Lys	Lys	Asp	Asn	Ser	Asp	Lys	Asn	Leu	Glu	Glu	Ile	Glu	Glu	Asn
			245					250						255	
Leu	Ser	Ser	Ile	Gly	Arg	Ile	Ile	Asn	Asp	Leu	Lys	Arg	Lys	Ile	Ser
			260					265					270		
Ala	Asn	Glu	Ala	Ile	Asn	Lys	Glu	Asn	Gln	Lys	Lys	Ile	Arg	Thr	Asp
	275						280					285			
Lys	His	Lys	Leu	Lys	Glu	Leu	Glu	Asp	Lys	Ile	Lys	Glu	Asn	Glu	Glu
290						295					300				
Thr	Ile	Leu	Lys	Leu	Gln	Lys	Glu	Leu	Asn	Asn	Phe	Lys	Lys	Lys	Glu
305					310					315					320
Ile	Tyr	Gln	Lys	Pro	Leu	Asn	Glu	Glu	Thr	Phe	Thr	Pro	Ser	Ile	Thr
			325						330					335	
Ser	Lys	Asn	Asp	Asp	Leu	Glu	Glu	Asn	Lys	Lys	Leu	Lys	Lys	Glu	Tyr
			340					345					350		
Leu	Lys	Pro	Ile	Glu	Lys	Lys	Glu	Ser	Arg	Asp	Leu	Glu	Glu	Asn	Thr
		355					360					365			
Lys	Ser	Thr	Pro	Lys	Thr	Thr	Met	Ile	Lys	Thr	Ala	Asp	Phe	Gln	Ile
	370					375					380				
Tyr	Pro	Asp	Ile	Tyr	Leu	Asn	Asn	Tyr	Lys	Phe	Lys	Glu	Lys	Gly	Asp
385					390					395					400
Gln	Phe	Ala	Phe	Lys	Lys	Glu	Asn	Thr	Tyr	Tyr	Ile	Glu	Ile	Asp	Pro
			405						410					415	
Thr	Asn	Asn	Leu	Asn	Glu	Ala	Leu	Lys	Asn	His	Glu	Ile	Ile	Ser	Lys
			420						425					430	

Tyr Lys Phe Glu Lys Tyr Phe Ile Asn Pro Ile Leu Lys Asn Lys Glu  
435 440 445

Glu Phe Phe Arg Asn Leu Ile Glu Val Lys Asn Ile His Glu Leu Gly  
450 455 460

Ile Met Tyr Lys Asn Leu Lys Pro Glu Phe Lys Gln Ile Lys Ile Ile  
465 470 475 480

Lys

<210> 546

<211> 1493

<212> DNA

<213> Homo sapiens

<400> 546

```
atgaataaaaa caaaaaatcg aagccttacg tattttataa tactttcatg tatatcatta 60
tttgggggcta ataataatac aataagctac tctagcattg aaattcctct agaagactta 120
agtgaagaat ttaaaagttc tgggaataaa agcgatcaaa taaatacctc aaaacattta 180
aacaaaaaca tagtttctta tgaagaccca aaaaagggtg aagatctaaa attgccagaa 240
aatataagag acaaaaaact accccaaaaa agaatggacg aaaatgatct aaaatctgta 300
attgaaaatt atgaaaataa aattaaaaac atagaaaagc ttttaaaaac caaaaatcaa 360
aaaacatcgg aaaatgaaaa taaaaaaata gaatcaatcg aaaaaaaagc aaaaaaatat 420
gaaattttta ccaataaatt aaaaaacgaa atagtagaaa taaaaaagct ccttaacaaa 480
aaaatcaagc ctaaaagaaga tgaaaattac gaaaaataa atattgaaaa cattgaagaa 540
gaaactgatg atgattttga agacaattat gaataataat atgaaattga agaacaaatg 600
aggacaatta cccttctaata gaaggaataa taaacaatct aaaagaaaat cttaatgaaa 660
acgaaaaata ttatgctatt aatgaaaaaa aaatcgatga acttgaagac agaatcaacg 720
agaatgaaaa cactatttta gacttgcaaa gagaattaag gaatttttaa aaaaaagata 780
actcagataa aaacttagaa gaaattgagg aaaatttatc ttcaatagga agaataatta 840
atgatctaaa aagaaaaatc agcgcaaagt aagcaataaa caaagaaaat caaaaaaaaa 900
taagaactga taaacacaaa ctcaaagaat tagaagataa aataaaggaa aatgaagaga 960
ctatttttaa acttcaaaaa gaattaaaca attttaaaaa aaaagaaatt tatcaaaaaa 1020
ccttaaatag agaaaactttc actccaagca ttacaagtaa aaatgacgac ttagaagaaa 1080
ataagaaatt aaaaaaggaa tatttaaagc ccatagaaaa aaaagaaaagc cgagatctag 1140
aagaaaatac taaaagcacc ccaaaaacaa ctatgataaa aacagcagat tttcaaactc 1200
accctgacat atatcttaat aattataaat ttaaagaaaa gggagatcaa tttgcattta 1260
aaaaagaaaa cacatactat attgaaatag atccactaa caattttaat gaggctttta 1320
aaaatcatga aataatctca aaatataaat ttgaaaaata tttcattaac cctattctaa 1380
aaaataaaga agaatttttt agaaacttaa tagaagtcaa aaatatccac gaactaggaa 1440
ttatgtataa aaatctaaag cctgaattta agcaataaaa aataattaaa taa 1493
```

<210> 547

<211> 1445

<212> DNA

<213> Homo sapiens

<400> 547

```
tgtatatcat tatttggggc taataataat acaataagct actctagcat tgaattcct 60
ctagaagact taagtgaaga atttaaaagt tctgggaata aaagcgatca aataaatacc 120
tcaaaacatt taaacaaaaa catagtttct tatgaagacc caaaaaaggg taaagatcta 180
aaattgccag aaaaataaag agacaaaaaa ctaccccaaa aaagaatgga cgaaaatgat 240
ctaaaatctg taattgaaaa ttatgaaaat aaaattaaaa acatagaaaa gcttttataa 300
accaaaaatc aaaaaacatc ggaaaatgaa aataaaaaaa tagaatcaat cgaaaaaaaa 360
gcaaaaaaat atgaaatttt aaccaataaa ttaaaaaacg aaatagtaga aataaaaaag 420
```

```

ctccttaaca aaaaaatcaa gcctaaagaa gatgaaaatt acgaaaaaat aaatatggaa 480
aacattgaag aagaaactga tgatgatttt gaagacaatt atgaatataa tgatgaaatt 540
gaagaacaaa tgaggacaat tacccttcta atgaaggaaat aataaacaat ctaaaagaaa 600
atcttaataa aaacgaaaaa tattatgcta ttaatgaaaa aaaaatcgat gaacttgaag 660
acagaatcaa cgagaatgaa aacactattt tagacttgca aagagaatta aggaatttta 720
aaaaaaaaaga taactcagat aaaaacttag aagaaattga ggaaaattta tcttcaatag 780
gaagaataat taatgatcta aaaagaaaaa tcagcgcaaa tgaagcaata aacaaagaaa 840
atcaaaaaaa aataagaact gataaacaca aactcaaaga attagaagat aaaataaagg 900
aaaatgaaga gactattttta aaacttcaaa aagaattaaa caatttttaa aaaaaagaaa 960
tttatcaaaa acccttaaat gaagaaactt tcactccaag cattacaagt aaaaatgacg 1020
acttagaaga aaataagaaa ttaaaaaagg aatattttaa gcccatagaa aaaaaagaaa 1080
gccgagatct agaagaaaat actaaaagca ccccaaaaac aactatgata aaaacagcag 1140
attttcaaat ctaccctgac atatatctta ataattataa atttaaagaa aaggagatc 1200
aatttgcatt taaaaaagaa aacacatact atattgaaat agatcccact aacaatttaa 1260
atgaggcttt aaaaaatcat gaaataatct caaaatataa atttgaaaaa tatttcatta 1320
accctattct aaaaaataaa gaagaatttt ttagaaactt aatagaagtc aaaaatatcc 1380
acgaactagg aattatgtat aaaaatctaa agcctgaatt taagcaaata aaaataatta 1440
aataa 1445

```

<210> 548

<211> 575

<212> PRT

<213> Homo sapiens

<400> 548

```

Met Asn Thr Lys Gly Lys Val Val Gly Val Asn Gly Asn Leu Val Thr
  1           5           10          15

```

```

Ile Glu Val Glu Gly Ser Val Ser Met Asn Glu Val Leu Phe Val Lys
      20           25           30

```

```

Thr Ala Gly Arg Asn Leu Lys Ala Glu Val Ile Arg Ile Arg Gly Asn
  35           40           45

```

```

Glu Val Asp Ala Gln Val Phe Glu Leu Thr Lys Gly Ile Ser Val Gly
  50           55           60

```

```

Asp Leu Val Glu Phe Thr Asp Lys Leu Leu Thr Val Glu Leu Gly Pro
  65           70           75           80

```

```

Gly Leu Leu Thr Gln Val Tyr Asp Gly Leu Gln Asn Pro Leu Pro Glu
      85           90           95

```

```

Leu Ala Ile Gln Cys Gly Phe Phe Leu Glu Arg Gly Val Tyr Leu Arg
  100          105          110

```

```

Pro Leu Asn Lys Asp Lys Lys Trp Asn Phe Lys Lys Thr Ser Lys Val
  115          120          125

```

```

Gly Asp Ile Val Ile Ala Gly Asp Phe Leu Gly Phe Val Ile Glu Gly
  130          135          140

```

```

Thr Val His His Gln Ile Met Ile Pro Phe Tyr Lys Arg Asp Ser Tyr
  145          150          155          160

```

```

Lys Ile Val Glu Ile Val Ser Asp Gly Asp Tyr Ser Ile Asp Glu Gln
      165          170          175

```

Ile Ala Val Ile Glu Asp Asp Ser Gly Met Arg His Asn Ile Thr Met  
 180 185 190  
 Ser Phe His Trp Pro Val Lys Val Pro Ile Thr Asn Tyr Lys Glu Arg  
 195 200 205  
 Leu Ile Pro Ser Glu Pro Met Leu Thr Gln Thr Arg Ile Ile Asp Thr  
 210 215 220  
 Phe Phe Pro Val Ala Lys Gly Gly Thr Phe Cys Ile Pro Gly Pro Phe  
 225 230 235 240  
 Gly Ala Gly Lys Thr Val Leu Gln Gln Val Thr Ser Arg Asn Ala Asp  
 245 250 255  
 Val Asp Val Val Ile Ile Ala Ala Cys Gly Glu Arg Ala Gly Glu Val  
 260 265 270  
 Val Glu Thr Leu Lys Glu Phe Pro Glu Leu Met Asp Pro Lys Thr Gly  
 275 280 285  
 Lys Ser Leu Met Asp Arg Thr Cys Ile Ile Cys Asn Thr Ser Ser Met  
 290 295 300  
 Pro Val Ala Ala Arg Glu Ala Ser Val Tyr Thr Ala Ile Thr Ile Gly  
 305 310 315 320  
 Glu Tyr Tyr Arg Gln Met Gly Leu Asp Ile Leu Leu Leu Ala Asp Ser  
 325 330 335  
 Thr Ser Arg Trp Ala Gln Ala Met Arg Glu Met Ser Gly Arg Leu Glu  
 340 345 350  
 Glu Ile Pro Gly Glu Glu Ala Phe Pro Ala Tyr Leu Glu Ser Val Ile  
 355 360 365  
 Ala Ser Phe Tyr Glu Arg Ala Gly Ile Val Val Leu Asn Asn Gly Asp  
 370 375 380  
 Ile Gly Ser Val Thr Val Gly Gly Ser Val Ser Pro Ala Gly Gly Asn  
 385 390 395 400  
 Phe Glu Glu Pro Val Thr Gln Ala Thr Leu Lys Val Val Gly Ala Phe  
 405 410 415  
 His Gly Leu Thr Arg Glu Arg Ser Asp Ala Arg Lys Phe Pro Ala Ile  
 420 425 430  
 Ser Pro Leu Glu Ser Trp Ser Lys Tyr Lys Gly Val Ile Asp Gln Lys  
 435 440 445  
 Lys Thr Glu Tyr Ala Arg Ser Phe Leu Val Lys Gly Asn Glu Ile Asn  
 450 455 460  
 Gln Met Met Lys Val Val Gly Glu Glu Gly Ile Ser Asn Asp Asp Phe  
 465 470 475 480  
 Leu Ile Tyr Leu Lys Ser Glu Leu Leu Asp Ser Cys Tyr Leu Gln Gln

;

Pro Val Ala Lys Gly Gly Thr Phe Cys Ile Pro Gly Pro Phe Gly Ala  
 195 200 205  
 Gly Lys Thr Val Leu Gln Gln Val Thr Ser Arg Asn Ala Asp Val Asp  
 210 215 220  
 Val Val Ile Ile Ala Ala Cys Gly Glu Arg Ala Gly Glu Val Val Glu  
 225 230 235 240  
 Thr Leu Lys Glu Phe Pro Glu Leu Met Asp Pro Lys Thr Gly Lys Ser  
 245 250 255  
 Leu Met Asp Arg Thr Cys Ile Ile Cys Asn Thr Ser Ser Met Pro Val  
 260 265 270  
 Ala Ala Arg Glu Ala Ser Val Tyr Thr Ala Ile Thr Ile Gly Glu Tyr  
 275 280 285  
 Tyr Arg Gln Met Gly Leu Asp Ile Leu Leu Leu Ala Asp Ser Thr Ser  
 290 295 300  
 Arg Trp Ala Gln Ala Met Arg Glu Met Ser Gly Arg Leu Glu Glu Ile  
 305 310 315 320  
 Pro Gly Glu Glu Ala Phe Pro Ala Tyr Leu Glu Ser Val Ile Ala Ser  
 325 330 335  
 Phe Tyr Glu Arg Ala Gly Ile Val Val Leu Asn Asn Gly Asp Ile Gly  
 340 345 350  
 Ser Val Thr Val Gly Gly Ser Val Ser Pro Ala Gly Gly Asn Phe Glu  
 355 360 365  
 Glu Pro Val Thr Gln Ala Thr Leu Lys Val Val Gly Ala Phe His Gly  
 370 375 380  
 Leu Thr Arg Glu Arg Ser Asp Ala Arg Lys Phe Pro Ala Ile Ser Pro  
 385 390 395 400  
 Leu Glu Ser Trp Ser Lys Tyr Lys Gly Val Ile Asp Gln Lys Lys Thr  
 405 410 415  
 Glu Tyr Ala Arg Ser Phe Leu Val Lys Gly Asn Glu Ile Asn Gln Met  
 420 425 430  
 Met Lys Val Val Gly Glu Glu Gly Ile Ser Asn Asp Asp Phe Leu Ile  
 435 440 445  
 Tyr Leu Lys Ser Glu Leu Leu Asp Ser Cys Tyr Leu Gln Gln Asn Ser  
 450 455 460  
 Phe Asp Ser Ile Asp Ala Ala Val Ser Ser Glu Arg Gln Asn Tyr Met  
 465 470 475 480  
 Phe Asp Ile Val Tyr Asn Ile Leu Lys Thr Asn Phe Glu Phe Ser Asp  
 485 490 495

Lys Leu Gln Ala Arg Asp Phe Ile Asn Glu Leu Arg Gln Asn Leu Leu  
500 505 510

Asp Met Asn Leu Ser Ser Phe Lys Asp His Lys Phe Asn Lys Leu Glu  
515 520 525

His Ala Leu Gly Glu Leu Ile Asn Phe Lys Lys Val Ile  
530 535 540

<210> 550

<211> 1728

<212> DNA

<213> Homo sapiens

<400> 550

```

atgaatacaaa aaggaaaagt cgttggagtt aatggaaact tagttactat tgaggtagaa 60
gggttcagttt ctatgaatga agttttatnt gtaaagactg ctggtaggaa tttaaaagca 120
gaagtaattc gtattagggg caatgaagtt gatgcacagg tttttgaatt gacaaaaggg 180
atatctgttg gagacctagt tgaattttaca gacaaacttt taacagttga actcggacca 240
gggctttttaa ctcaagtata tgatgggctt caaaatcctt tgcctgaatt ggctattcaa 300
tgtggattttt ttttagaaaag gggagtatat ttaaggccct tgaataaaga taaaaagtgg 360
aattttataaa aaacctccaa agttggagat atcgttattg caggagattt tttaggtttt 420
gtaattgagg gaactgttca ccatcaaata atgattccat tttataaaaag ggattccttat 480
aaaattgtgg agattgttaag tgatggcgac tattcgattg atgagcaaat tgctgtaatt 540
gaagatgatt ctggtatgag gcataatatt acaatgtctt ttcattggcc tgtaaagtt 600
cctattacta attataagga acgccttatt cctagtgaac ctatgttgac tcaaactaga 660
attatagata catttttccc agttgccaaa ggtggaactt tttgcattcc gggtcctttt 720
ggagcaggaa aaacggttct tcagcaggtt acaagtcgaa atgctgatgt tgatgtagtg 780
attattgcag cttgtggtga gcgagcagga gaagtggtag aaactcctaa agaatttccc 840
gaattaatgg atccaaaaac cggcaaatct ttaatggaca ggacttgtat tatttgtaat 900
acatcttcaa tgccagttgc agctagagaa gcttctgttt atactgctat tactattggg 960
gagtattaca ggcaaatggg ccttgatatt cttcttttgg cagattcaac ttcaagatgg 1020
gctcaagcaa tgagagaaat gtctggacgc cttgaggaaa ttcctggcga ggaggctttt 1080
ccggcatatc ttgagtctgt tattgcttcc ttttatgaaa gggcagggtat tgtagttctt 1140
aataatgggg atattggatc tgtaacagtt ggtggctctg taagtcctgc tgggtggaat 1200
tttgaagagc cagttactca agcaacttta aaagttgtag gagcatttca cgggcttaca 1260
agagaaaggt ctgatgctag gaaattttcca gctattagtc ctcttgaatc ttggagtaaa 1320
tataaaggcg ttattgatca aaaaaagact gaatatgcaa gatctttttt ggtgaaaggt 1380
aatgaaatta atcaaatgat gaaagttggt ggagaagaag gcataagtaa cgatgatttt 1440
ttaatttatt taaaatccga gctacttgat tcgtgctatt tgcagcaaaa ttcatttgat 1500
tctattgatg ctgctgttag ttcagagcgt caaaattata tgtttgatat agtttataac 1560
attcttaaaa ctaactttga gttttctgat aaacttcaag caagagattt tataaatgag 1620
ttaaggcaaa atctttttaga catgaatctt tcttctttta aggatcataa gtttaataaa 1680
ttggagcatg ctttgggtga attgataaat tttaaaaagg taatttag 1728

```

<210> 551

<211> 1626

<212> DNA

<213> Homo sapiens

<400> 551

```

ggtaggaatt taaaagcaga agtaattcgt attaggggca atgaagttga tgcacagggt 60
tttgaattga caaaagggat atctgttgga gacctagttg aatttacaga caaactttta 120
acagttgaac tcggaccagg gcttttaact caagtatatg atgggcttca aaatcctttg 180
cctgaattgg ctattcaatg tggatttttt ttagaaaagg gagtatattt aaggcccttg 240
aataaagata aaaagtggaa ttttaaaaaa acctccaaag ttggagatat cgttattgea 300
ggagattttt taggttttgt aattgaggga actgttcacc atcaaataat gattccattt 360
tataaaaggg attcttataa aattgtggag attgttaagt atggcgacta ttcgattgat 420

```



```

gagcaaattg ctgtaattga agatgattct ggtatgaggc ataatattac aatgtctttt 480
cattggcctg ttaaagttcc tattactaat tataaggaac gccttattcc tagtgaacct 540
atgttgactc aaactagaat tatagataca tttttcccag ttgccaaagg tggaactttt 600
tgcattccgg gtccttttgg agcaggaaaa acggttcttc agcagggttac aagtcgaaat 660
gctgatgttg atgtagtgat tattgcagct tgtggtgagc gagcaggaga agtggtagaa 720
actcttaaag aatttcccga attaatggat ccaaaaaccg gcaaattctt aatggacagg 780
acttgatta tttgtaatac atottcaatg ccagttgcag ctagagaagc ttctgtttat 840
actgctatta ctattgggtga gtattacagg caaatgggcc ttgatattct tcttttggca 900
gattcaactt caagatgggc tcaagcaatg agagaaatgt ctggacgcct tgaggaaatt 960
cctggcgagg aggcctttcc ggcatactct gagtctgtta ttgcttcctt ttatgaaagg 1020
gcagggtattg tagttcttaa taatggggat attggatctg taacagttgg tggctctgta 1080
agtctgctg gtggttaattt tgaagagcca gttactcaag caactttaaa agttgtagga 1140
gcatttcacg ggcttacaag agaaaggctt gatgctagga aatttccagc tattagtctt 1200
cttgaatctt ggagtaaata taaaggcggt attgatcaaa aaaagactga atatgcaaga 1260
tcttttttgg tgaaaggtaa tgaaattaat caaatgatga aagtgtgttg agaagaaggc 1320
ataagtaacg atgatttttt aattttattta aaatccgagc tacttgattc gtgctatttg 1380
cagcaaaatt catttgattc tattgatgct gctgttagtt cagagcgtca aaattatatg 1440
tttgatatag ttataacat tcttaaaact aactttgagt tttctgataa acttcaagca 1500
agagatttta taaatgagtt aaggcaaat cttttagaca tgaatctttc ttcttttaag 1560
gatcataagt ttaataaatt ggagcatgct ttgggtgaat tgataaattt taaaaaggta 1620
atntag                                           1626

```

<210> 552

<211> 434

<212> PRT

<213> Homo sapiens

<400> 552

```

Met Lys Arg Val Tyr Ser Lys Ile Glu Ser Ile Ala Gly Asn Val Ile
  1             5             10             15

```

```

Thr Val Thr Ala Gln Gly Ile Lys Tyr Gly Glu Leu Ala Ile Val Lys
          20             25             30

```

```

Ala Lys Asp Thr Ser Ser Leu Ala Glu Val Ile Lys Leu Asp Arg Glu
          35             40             45

```

```

Lys Val Ser Leu Gln Val Tyr Gly Gly Thr Arg Gly Val Ser Thr Ser
          50             55             60

```

```

Asp Glu Ile Lys Phe Leu Gly His Ser Met Gln Val Ser Phe Ser Asp
          65             70             75             80

```

```

Asn Leu Leu Gly Arg Ile Phe Asp Gly Ser Gly Asn Pro Arg Asp Gly
          85             90             95

```

```

Gly Pro Ser Leu Asp Asp Asn Leu Ile Glu Ile Gly Gly Pro Ser Ala
          100            105            110

```

```

Asn Pro Thr Lys Arg Ile Val Pro Arg Asn Met Ile Arg Thr Gly Leu
          115            120            125

```

```

Pro Met Ile Asp Val Phe Asn Thr Leu Val Glu Ser Gln Lys Leu Pro
          130            135            140

```

```

Ile Phe Ser Val Ser Gly Glu Pro Tyr Asn Glu Leu Leu Ile Arg Ile
          145            150            155            160

```

Ala Leu Gln Ala Glu Val Asp Leu Ile Ile Leu Gly Gly Met Gly Leu  
 165 170 175  
 Lys His Asp Asp Tyr Leu Thr Phe Lys Asp Ser Leu Glu Lys Gly Gly  
 180 185 190  
 Ala Leu Ser Arg Ala Ile Phe Phe Val His Thr Ala Asn Asp Ser Val  
 195 200 205  
 Val Glu Ser Leu Thr Val Pro Asp Ile Ser Leu Ser Val Ala Glu Lys  
 210 215 220  
 Phe Ala Leu Lys Gly Lys Lys Val Leu Val Leu Leu Thr Asp Met Thr  
 225 230 235 240  
 Asn Phe Ala Asp Ala Met Lys Glu Ile Ser Ile Thr Met Glu Gln Val  
 245 250 255  
 Pro Ser Asn Arg Gly Tyr Pro Gly Asp Leu Tyr Ser Gln Leu Ala Tyr  
 260 265 270  
 Arg Tyr Glu Lys Ala Ile Asp Phe Glu Gly Ala Gly Ser Ile Thr Ile  
 275 280 285  
 Leu Ala Val Thr Thr Met Pro Gly Asp Asp Val Thr His Pro Val Pro  
 290 295 300  
 Asp Asn Thr Gly Tyr Ile Thr Glu Gly Gln Tyr Tyr Leu Lys Gly Gly  
 305 310 315 320  
 Arg Ile Glu Pro Phe Gly Ser Leu Ser Arg Leu Lys Gln Met Val Asn  
 325 330 335  
 Ser Arg Thr Arg Asp Asp His Arg Thr Ile Met Asp Ser Met Ile Lys  
 340 345 350  
 Leu Tyr Ala Ser Ser Lys Glu Ser Val Glu Lys Lys Ala Met Gly Phe  
 355 360 365  
 Asn Met Thr Lys Trp Asp Glu Lys Leu Leu Lys Tyr Ser Asn Met Phe  
 370 375 380  
 Glu Ser Lys Met Met Asp Leu Ser Val Asn Ile Pro Leu Glu Glu Ala  
 385 390 395 400  
 Leu Asp Leu Gly Trp Ser Ile Leu Ala Ser Cys Phe Ser Pro Lys Glu  
 405 410 415  
 Thr Gly Ile Lys Thr Asp Leu Ile Glu Lys Tyr Trp Pro Lys Lys Glu  
 420 425 430  
 Thr Tyr

&lt;210&gt; 553

&lt;211&gt; 414

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 553

Gln Gly Ile Lys Tyr Gly Glu Leu Ala Ile Val Lys Ala Lys Asp Thr  
 1 5 10 15  
 Ser Ser Leu Ala Glu Val Ile Lys Leu Asp Arg Glu Lys Val Ser Leu  
 20 25 30  
 Gln Val Tyr Gly Gly Thr Arg Gly Val Ser Thr Ser Asp Glu Ile Lys  
 35 40 45  
 Phe Leu Gly His Ser Met Gln Val Ser Phe Ser Asp Asn Leu Leu Gly  
 50 55 60  
 Arg Ile Phe Asp Gly Ser Gly Asn Pro Arg Asp Gly Gly Pro Ser Leu  
 65 70 75 80  
 Asp Asp Asn Leu Ile Glu Ile Gly Gly Pro Ser Ala Asn Pro Thr Lys  
 85 90 95  
 Arg Ile Val Pro Arg Asn Met Ile Arg Thr Gly Leu Pro Met Ile Asp  
 100 105 110  
 Val Phe Asn Thr Leu Val Glu Ser Gln Lys Leu Pro Ile Phe Ser Val  
 115 120 125  
 Ser Gly Glu Pro Tyr Asn Glu Leu Leu Ile Arg Ile Ala Leu Gln Ala  
 130 135 140  
 Glu Val Asp Leu Ile Ile Leu Gly Gly Met Gly Leu Lys His Asp Asp  
 145 150 155 160  
 Tyr Leu Thr Phe Lys Asp Ser Leu Glu Lys Gly Gly Ala Leu Ser Arg  
 165 170 175  
 Ala Ile Phe Phe Val His Thr Ala Asn Asp Ser Val Val Glu Ser Leu  
 180 185 190  
 Thr Val Pro Asp Ile Ser Leu Ser Val Ala Glu Lys Phe Ala Leu Lys  
 195 200 205  
 Gly Lys Lys Val Leu Val Leu Leu Thr Asp Met Thr Asn Phe Ala Asp  
 210 215 220  
 Ala Met Lys Glu Ile Ser Ile Thr Met Glu Gln Val Pro Ser Asn Arg  
 225 230 235 240  
 Gly Tyr Pro Gly Asp Leu Tyr Ser Gln Leu Ala Tyr Arg Tyr Glu Lys  
 245 250 255  
 Ala Ile Asp Phe Glu Gly Ala Gly Ser Ile Thr Ile Leu Ala Val Thr  
 260 265 270  
 Thr Met Pro Gly Asp Asp Val Thr His Pro Val Pro Asp Asn Thr Gly  
 275 280 285  
 Tyr Ile Thr Glu Gly Gln Tyr Tyr Leu Lys Gly Gly Arg Ile Glu Pro  
 290 295 300

Phe Gly Ser Leu Ser Arg Leu Lys Gln Met Val Asn Ser Arg Thr Arg  
305 310 315 320

Asp Asp His Arg Thr Ile Met Asp Ser Met Ile Lys Leu Tyr Ala Ser  
325 330 335

Ser Lys Glu Ser Val Glu Lys Lys Ala Met Gly Phe Asn Met Thr Lys  
340 345 350

Trp Asp Glu Lys Leu Leu Lys Tyr Ser Asn Met Phe Glu Ser Lys Met  
355 360 365

Met Asp Leu Ser Val Asn Ile Pro Leu Glu Glu Ala Leu Asp Leu Gly  
370 375 380

Trp Ser Ile Leu Ala Ser Cys Phe Ser Pro Lys Glu Thr Gly Ile Lys  
385 390 395 400

Thr Asp Leu Ile Glu Lys Tyr Trp Pro Lys Lys Glu Thr Tyr  
405 410

<210> 554

<211> 1305

<212> DNA

<213> Homo sapiens

<400> 554

```

atgaaaagag tctatagtaa aatagagtct atagcaggca atgtaataac tgttacagct 60
caaggtatta agtatggtga gcttgctatt gtaaaagcaa aagatacaag ttctctagcc 120
gaagtaatta aacttgatcg agaaaaagtt tctcttcagg tttatggtgg tacaagaggt 180
gtttccacgt cagacgagat aaagttttta gggcattcaa tgcaggtttc attttctgac 240
aatttggtgg gcagaatttt tgatggttct ggggaatccta gagatggggg cccttctctt 300
gatgataatt tgattgaaat tgggtgggct tctgcaaatc ctacaaaacg cattgttctt 360
agaaatatga taaggacagg gcttccaatg atagatgttt ttaatactct tgttgaatct 420
caaaaattgc caattttttc tgtttctggt gagccttata atgagcttct tataagaatt 480
gcacttcaag cagaagttga ttttaataatt cttggcggaa tgggacttaa gcatgatgat 540
tatttaactt ttaaagattc tttagaaaag ggaggtgctt taagtagagc aatttttttt 600
gttcatactg ctaatgattc tgttggtgaa tctttaactg ttcctgatat ttcactttct 660
gttgctgaaa agtttgctct aaagggcaaa aaagttttgg tgcttctcac agacatgaca 720
aattttgctg atgcaatgaa agaaatatct attacaatgg aacaagtgcc ttctaataga 780
ggttatcccc gggatttgta ttctcagctt gcatatcgtt atgagaaggc tattgacttt 840
gaaggcgcag gatcaattac aatacttgca gttacaacaa tgccgggtga cgatgttact 900
catcctgttc ctgacaatac tggatacatt acagaaggtc aatactattt aaaagggtggc 960
agaatagagc cttttgggtc tctttcaaga ctttaagcaaa tggtaaatag tagaactaga 1020
gacgatcaca ggactataat ggattcaatg atcaagcttt atgcatcttc aaaagagtct 1080
gtagaaaaaa aggctatggg atttaatatg actaagtggg atgaaaaatt gctcaagtat 1140
agcaatatgt ttgaaagtaa gatgatggat ttgtctgtta atattccttt agaagaggct 1200
ttagatttag gttggagcat tcttgctagt tgttttagcc caaaagaaac gggaataaaa 1260
acagatctta ttgaaaaata ttggcctaaa aaagagactt attga 1305

```

<210> 555

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 555

```

caaggtatta agtatggtga gcttgctatt gtaaaagcaa aagatacaag ttctctagcc 60

```

```

gaagtaatta aacttgatcg agaaaaagtt tctcttcagg tttatgggtgg tacaagaggt 120
gtttccacgt cagacgagat aaagttttta gggcattcaa tgcagggttc attttctgac 180
aatttggttg gcagaatttt tgatggttct gggaaatccta gagatggggg cccttctctt 240
gatgataatt tgattgaaat tgggtgggcct tctgcaaata ctacaaaacg cattgttctt 300
agaaatatga taaggacagg gcttccaatg atagatgttt ttaatactct tgttgaatct 360
caaaaattgc caattttttc tgtttctggt gagccttata atgagcttct tataagaatt 420
gcacttcaag cagaagttga ttttaataatt cttggcggaa tgggacttaa gcatgatgat 480
tatttaactt ttaaagattc tttagaaaag ggaggtgctt taagtagagc aatttttttt 540
gttcatactg ctaatgattc tgttggtgaa tctttaactg ttcttgatat ttcaactttt 600
gttgctgaaa agtttgctct aaagggcaaa aaagttttgg tgcttctcac agacatgaca 660
aattttgctg atgcaatgaa agaaatatct attacaatgg aacaagtgcc ttctaataga 720
ggttatcccg gggatttgta ttctcagctt gcatatcggt atgagaaggc tattgacttt 780
gaaggcgag gatcaattac aatacttgca gttacaacaa tgccgggtga cgatgttact 840
catcctgttc ctgacaatac tggatacatt acagaaggct aatactattt aaaagggtggc 900
agaatagagc cttttgggtc tctttcaaga ctttaagcaaa tggtaaatag tagaactaga 960
gacgatcaca ggactataat ggattcaatg atcaagcttt atgcatcttc aaaagagtct 1020
gtagaaaaaa aggctatggg atttaatatg actaagtggg atgaaaaatt gctcaagtat 1080
agcaatatgt ttgaaagtaa gatgatggat ttgtctgtta atattccttt agaagaggct 1140
ttagatttag gttggagcat tcttgctagt tgttttagcc caaaagaaac gggaataaaa 1200
acagatctta ttgaaaaata ttggcctaaa aaagagactt attga 1245

```

<210> 556

<211> 324

<212> PRT

<213> Homo sapiens

<400> 556

Met Arg Ser Ala Val Leu Phe Phe Phe Ala Leu Pro Phe Ser Ile Ser  
1 5 10 15

Leu Tyr Ser Ser Ser Asn Lys Asn Phe Pro Tyr Trp Ile Leu Leu Glu  
20 25 30

Lys Gly Arg Gln Phe Leu Tyr Ser Lys Ser Glu Phe Ser Lys Ser Asn  
35 40 45

Leu Thr His Ala Ile Asn Tyr Leu Gln Glu Ala Leu Leu Arg Lys Gly  
50 55 60

Val Tyr Pro Glu Ala Ser Tyr Tyr Leu Ser Val Ala Tyr Gly Met Ser  
65 70 75 80

Gly Asn Ala Ile Leu Glu Lys Leu Asn Leu Tyr Lys Ser Phe Glu Asp  
85 90 95

Arg Tyr Tyr Leu Leu Asp Glu Ser Phe Glu Lys Lys Ile Leu Phe Ser  
100 105 110

Leu Ala Lys Met Ala Glu Leu Glu Asn Asn Tyr Val Asp Thr Ile Asp  
115 120 125

Tyr Leu Asn Asp Ile Leu Asn Lys Phe Ser Thr Lys Lys Asp Tyr Tyr  
130 135 140

Ser Tyr His Asp Tyr Ser Gln Gly Glu Asn Ser Met Ser Asn Asn Glu  
145 150 155 160

Leu Asn Ala Ser Phe Tyr Leu Thr Ser Tyr Leu Lys Gln Val Arg Gly

	165		170		175
Ala Phe Gly Ile Asp Phe Thr Phe Asn Leu Tyr Arg Phe Lys Asn Tyr	180		185		190
Asn Val Ile Asp Thr His Gln Leu Leu Ser Lys Val Tyr Leu His Leu	195		200		205
Lys Ala Tyr Glu Leu Ser Ile Thr His Gly Leu Ile Ala Ala Val Gly	210		215		220
Ile Leu Thr Arg Met Tyr Asp Tyr Val Cys Tyr Tyr Glu Pro Val Tyr	225		230		235
Gln Phe Lys Asn Leu Arg Ser Phe Val Gln Lys Ile Asn Lys Tyr Lys	245		250		255
Ala Ile Lys Asn Ala Phe Glu Ser Thr Asp Phe Trp Glu Ile Val Tyr	260		265		270
Asn Val Ala Ala Ala Thr Tyr Ala Tyr Ser Asn Gly Asn Tyr Lys Phe	275		280		285
Arg Ala Ile Asp Thr Trp Lys Leu Val Val Asp Leu Ala Pro Arg Phe	290		295		300
Ser Pro Tyr Ile Ala Lys Ser Arg Ser Gln Ile Lys Asn Ser Val Tyr	305		310		315
					320
Leu Lys Lys Asn					

&lt;210&gt; 557

&lt;211&gt; 304

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 557

Ser Asn Lys Asn Phe Pro Tyr Trp Ile Leu Leu Glu Lys Gly Arg Gln	1	5	10	15
---	---	---	----	----

Phe Leu Tyr Ser Lys Ser Glu Phe Ser Lys Ser Asn Leu Thr His Ala	20	25	30
---	----	----	----

Ile Asn Tyr Leu Gln Glu Ala Leu Leu Arg Lys Gly Val Tyr Pro Glu	35	40	45
---	----	----	----

Ala Ser Tyr Tyr Leu Ser Val Ala Tyr Gly Met Ser Gly Asn Ala Ile	50	55	60
---	----	----	----

Leu Glu Lys Leu Asn Leu Tyr Lys Ser Phe Glu Asp Arg Tyr Tyr Leu	65	70	75	80
---	----	----	----	----

Leu Asp Glu Ser Phe Glu Lys Lys Ile Leu Phe Ser Leu Ala Lys Met	85	90	95
---	----	----	----

Ala Glu Leu Glu Asn Asn Tyr Val Asp Thr Ile Asp Tyr Leu Asn Asp	100	105	110
---	-----	-----	-----

Ile Leu Asn Lys Phe Ser Thr Lys Lys Asp Tyr Tyr Ser Tyr His Asp  
 115 120 125  
 Tyr Ser Gln Gly Glu Asn Ser Met Ser Asn Asn Glu Leu Asn Ala Ser  
 130 135 140  
 Phe Tyr Leu Thr Ser Tyr Leu Lys Gln Val Arg Gly Ala Phe Gly Ile  
 145 150 155 160  
 Asp Phe Thr Phe Asn Leu Tyr Arg Phe Lys Asn Tyr Asn Val Ile Asp  
 165 170 175  
 Thr His Gln Leu Leu Ser Lys Val Tyr Leu His Leu Lys Ala Tyr Glu  
 180 185 190  
 Leu Ser Ile Thr His Gly Leu Ile Ala Ala Val Gly Ile Leu Thr Arg  
 195 200 205  
 Met Tyr Asp Tyr Val Cys Tyr Tyr Glu Pro Val Tyr Gln Phe Lys Asn  
 210 215 220  
 Leu Arg Ser Phe Val Gln Lys Ile Asn Lys Tyr Lys Ala Ile Lys Asn  
 225 230 235 240  
 Ala Phe Glu Ser Thr Asp Phe Trp Glu Ile Val Tyr Asn Val Ala Ala  
 245 250 255  
 Ala Thr Tyr Ala Tyr Ser Asn Gly Asn Tyr Lys Phe Arg Ala Ile Asp  
 260 265 270  
 Thr Trp Lys Leu Val Val Asp Leu Ala Pro Arg Phe Ser Pro Tyr Ile  
 275 280 285  
 Ala Lys Ser Arg Ser Gln Ile Lys Asn Ser Val Tyr Leu Lys Lys Asn  
 290 295 300

&lt;210&gt; 558

&lt;211&gt; 975

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 558

atgagaagtg cggtttttatt ttttttttgc tttgccttttt ctattttcttt gtattcttca 60  
 agtaataaaa attttccgta ttggatttta cttgaaaaag gcaggcaatt tctttattct 120  
 aaatctgaat ttagtaagtc taatcttaca catgctatta attatttgca ggaagctttg 180  
 cttagaaaag gcgtttatcc tgaggctagt tattatttgt cagtagctta tggtagtct 240  
 ggcaatgcta ttcttgaaaa attaaacctt tataagtctt ttgaagacag atattatttg 300  
 ctagatgaat cttttgaaaa aaaaataact ttttctttag ctaaaatggc tgaacttgag 360  
 aataattatg ttgatactat tgattatttg aatgacatat taaataagtt ttcaactaaa 420  
 aaagattatt atagttatca tgattattct caaggcgaaa acagtatgtc aaataatgaa 480  
 cttaatgctt cattttattt aacttcttat ttaaaacaag taagaggagc ttttggtatt 540  
 gatttttactt ttaatcttta cagatttaaa aactacaatg ttattgatac tcatcaatta 600  
 ttgtcaaaag tttatttgca cttaaaagct tatgagcttt caattactca tggacttata 660  
 gctgcagtag gaattttaac aagaatgtat gattatgttt gttattatga acctgtgtat 720

```

cagtttaaaaa atttaaggtc ttttgttcaa aaaattaata agtataaggc aataaaaaaat 780
gcttttgaat ctacagattt ttgggaaata gtttataatg ttgctgctgc tacttatgca 840
tattctaata gcaattataa atttagagca atagatactt ggaaattagt agtagatctt 900
gcgccaaggt tttctcctta tattgctaaa tcaagaagtc aaattaaaaa ttctgtatat 960
ttaaaaaaaaa attaa 975

```

```

<210> 559
<211> 915
<212> DNA
<213> Homo sapiens

```

```

<400> 559
agtaataaaaa attttccgta ttggatttta cttgaaaaag gcaggcaatt tctttattct 60
aaatctgaat ttagtaagtc taatcttaca catgctatta attatttgca ggaagctttg 120
cttagaaaag gcgtttatcc tgaggctagt tattatttgt cagtagctta tggtatgtct 180
ggcaatgcta ttcttgaaaa attaaacctt tataagtctt ttgaagacag atattatttg 240
ctagatgaat cttttgaaaa aaaaataactt ttttcttttag ctaaaatggc tgaacttgag 300
aataattatg ttgatactat tgattatttg aatgacatat taaataagtt ttcaactaaa 360
aaagattatt atagttatca tgattattct caaggcgaaa acagtatgtc aaataatgaa 420
cttaatgctt cattttattt aacttcttat ttaaaacaag taagaggagc ttttggtatt 480
gatttttactt ttaatcttta cagattttaa aactacaatg ttattgatac tcatcaatta 540
ttgtcaaaaag tttatttgca cttaaaagct tatgagcttt caattactca tggacttata 600
gctgcagtag gaattttaac aagaatgtat gattatgttt gttattatga acctgtgtat 660
cagtttaaaaa atttaaggtc ttttgttcaa aaaattaata agtataaggc aataaaaaaat 720
gcttttgaat ctacagattt ttgggaaata gtttataatg ttgctgctgc tacttatgca 780
tattctaata gcaattataa atttagagca atagatactt ggaaattagt agtagatctt 840
gcgccaaggt tttctcctta tattgctaaa tcaagaagtc aaattaaaaa ttctgtatat 900
ttaaaaaaaaa attaa 915

```

```

<210> 560
<211> 316
<212> PRT
<213> Homo sapiens

```

```

<220>
<221> SITE
<222> (179)
<223> Xaa equals any of the naturally occurring L-amino acids

```

```

<400> 560
Met Leu Lys Ser Asn Lys Val Val Leu Ile Gly Ala Gly Gly Val Gly
 1             5             10             15

Ser Ser Phe Ala Tyr Ala Leu Thr Ile Asp Asn Ser Leu Val His Glu
      20             25             30

Leu Val Ile Ile Asp Val Asn Glu Asn Lys Ala Lys Gly Glu Val Met
      35             40             45

Asp Leu Asn His Gly Gln Met Phe Leu Lys Lys Asn Ile Asn Val Leu
      50             55             60

Phe Gly Thr Tyr Lys Asp Cys Ala Asn Ala Asp Ile Val Val Ile Thr
      65             70             75             80

Ala Gly Leu Asn Gln Lys Pro Gly Glu Thr Arg Leu Asp Leu Val Asp
      85             90             95

```



Lys Asn Ser Lys Ile Phe Lys Asp Ile Ile Thr Asn Val Val Ser Ser  
 100 105 110

Gly Phe Asp Gly Ile Phe Val Val Ala Ser Asn Pro Val Asp Ile Met  
 115 120 125

Thr Tyr Val Thr Met Lys Tyr Ser Lys Phe Pro Ile His Lys Val Ile  
 130 135 140

Gly Thr Gly Thr Ile Leu Asp Thr Ser Arg Leu Arg Tyr Phe Leu Ser  
 145 150 155 160

Asp His Phe Asn Val Asn Thr Gln Asn Ile His Ser Tyr Ile Met Gly  
 165 170 175

Glu His Xaa Asp Ser Ser Phe Ala Thr Trp Asp Glu Thr Lys Ile Ala  
 180 185 190

Met Lys Pro Leu Ser Glu Tyr Leu Ala Glu Gly Lys Ile Thr Glu Leu  
 195 200 205

Glu Leu Asp Glu Ile His Lys Lys Val Val Asn Ala Ala Tyr Glu Val  
 210 215 220

Ile Lys Leu Lys Gly Ala Thr Tyr Tyr Ala Ile Gly Leu Gly Ile Lys  
 225 230 235 240

Asn Ile Val Asn Ala Ile Ile Gly Asp Gln Asn Val Ile Leu Pro Ile  
 245 250 255

Ser Ser Tyr Ile Asn Gly Gln Tyr Gly Gly Leu Ile Lys Asp Ile Tyr  
 260 265 270

Ile Gly Ala Pro Ala Ile Val Cys Lys Glu Gly Val Lys Glu Val Leu  
 275 280 285

Asn Phe Lys Ile Ser Pro Lys Glu Leu Asp Lys Phe Asn Ser Ser Ala  
 290 295 300

Asn Gln Leu Lys Ser Tyr Ile Asp Lys Met Glu Phe  
 305 310 315

<210> 561

<211> 295

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (158)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 561

Ala Leu Thr Ile Asp Asn Ser Leu Val His Glu Leu Val Ile Ile Asp  
 1 5 10 15

Val Asn Glu Asn Lys Ala Lys Gly Glu Val Met Asp Leu Asn His Gly  
 20 25 30

```
<210> 562
<211> 950
<212> DNA
<213> Homo sapiens
```

<400> 562`

```

atgccttaagt ctaataaaagt tgttcttatt ggagctgggtg gggttgggtc aagctttgcg 60
tatgcttttaa caatagacaa ttcacttgta catgaacttg taattattga tgtaaatgaa 120
aataaaagcaa aaggggaggt catggacctt aatcatggcc aaatgttttt aaagaagaat 180
attaatgtat tgtttgggac ttacaaagat tgtgctaatag cagatattgt tgtaattaca 240
gcaggactta atcaaaaagcc tggtagagaca agacttgatt tggttgataa aaattcctaaa 300
atttttaaaag atattataac taatgttgta tctagcgggt ttgatgggtat ttttgttggt 360
gcaagcaatc ctgtagacat tatgacttat gttacaatga aatattccaa atttcctatt 420
cataagggtta ttggtactgg gactattcct gatacttcaa gacttagata ttttttaagt 480
gatcatttta atgtgaacac tcaaaatata cattcatata ttatgggtga gcacgtgaca 540
gttcttttgc tacgtgggat gaaacaaaaa tagcaatgaa gcctttgtca gaatatcttg 600
ctgaaggcaa aataaactgag ttggagcttg atgaaattca taaaaagggt gtgaatgctg 660
cttatgaagt tattaagtta aagggggcaa cctattatgc tattggactt ggtattaaga 720
atattgtaaa tgcaataatt ggagatcaga atgttattct gccaatatct tcttatatta 780
atggccagta tgggggattg attaaagata tttatattgg agcgctgct atagtttgta 840
aggaaggagt caaagaagtt ttaaaacttta agataagccc taaagagctt gataagttta 900
atagttctgc taatcagctt aaaagctata ttgataaaat ggaatttttag 950

```

&lt;210&gt; 563

&lt;211&gt; 887

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 563

```

gctttaacaa tagacaattc acttgtagat gaacttgtaa ttattgatgt taatgaaaat 60
aaagcaaaaag gggaggtcat ggaccttaat catggccaaa tgttttttaa gaagaatatt 120
aatgtattgt ttgggactta caaagattgt gctaatgcag atattgttgt aattacagca 180
ggacttaatc aaaagcctgg tgagacaaga cttgatttgg ttgataaaaa ttctaaaatt 240
tttaaaagata ttataactaa tgttgtagct agcggttttg atgggtatttt tgttggtgca 300
agcaatcctg tagacattat gacttatgtt acaatgaaat attccaaatt tcctattcat 360
aagggtattg gtactgggac tattcttgat acttcaagac ttagatatatt ttttaagtgt 420
cattttaatg tgaacactca aaatatacat tcatatatta tgggtgagca cgtgacagtt 480
cttttgctac gtgggatgaa acaaaaatag caatgaagcc tttgtcagaa tatcttgctg 540
aaggcaaaaat aactgagttg gagcttgatg aaattcataa aaagggttgtg aatgctgctt 600
atgaagttat taagttaaag ggggcaacct attatgctat tggacttggt attaagaata 660
ttgtaaatgc aataattgga gatcagaatg ttattctgcc aatatcttct tatattaatg 720
gccagtatgg gggattgatt aaagatatatt atattggagc gcctgctata gtttgtaagg 780
aaggagtcāā agaagtttta aactttaaga taagccttaa agagcttgat aagtttaata 840
gttctgctaa tcagcttaaa agctatattg ataaaatgga atttttag 887

```

&lt;210&gt; 564

&lt;211&gt; 342

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 564

```

Met Lys Lys Lys Gln Leu Ile Leu Leu Leu Phe Met Pro Gln Ile Ile
  1             5             10             15

```

```

Tyr Ala Lys Ser Tyr Phe Ala Ser Asp Val Phe Phe Asn Lys Tyr Gln
          20             25             30

```

```

Lys Leu Asn Glu Lys Pro Lys Thr Gly Phe Tyr Ile Glu Tyr Tyr Ser
  35             40             45

```

```

Val Asp Asp Thr Glu Lys Leu Tyr Leu Tyr Lys Glu Asn Asn Leu Ile
  50             55             60

```

```

Lys Tyr Lys Thr Ile Gln Ile Ile Glu Asn Thr Lys Lys Ile Thr Cys

```

65	70	75	80
Tyr Asp Thr Lys Asp 85	Thr Lys Arg Lys	Glu Glu Ile Tyr Asp 90	Asn Leu 95
Asn Asn Lys Ile Gln Glu Ile Glu Tyr Asp Ser Lys Gly Lys Thr Leu 100		105	110
Glu Thr Ala Asn Tyr Val Tyr Glu Asn Glu Asn Leu Ile Ser Lys Asn 115		120	125
Leu Lys Thr Ile Asn Gln Lys Pro Lys Leu Ile Tyr Tyr Ser Lys Asp 130		135	140
Asp Asn Gly Lys Leu Leu Lys Ile Thr Gly Ser Asn Phe Gln Ile Trp 145		150	155
Asn Tyr Gly Ile Asn Gly Asp Ile Lys Ser Thr Tyr Phe Asp Ile Lys 165		170	175
Lys Ala Thr Thr Lys Val Ile Lys Tyr Asp Asp Lys Lys Arg Asn Ser 180		185	190
Asn Ser Thr Ile Ile Val Asn Asn Lys Ile Lys Ser Lys Glu Lys Asn 195		200	205
Gln Tyr Leu Asp Glu Glu Lys Ile Val Asn Thr Phe Glu Glu Glu Asn 210		215	220
Thr Lys Ile Ile Ser Thr Tyr Lys Ala Asn Asn Leu Ile Lys Glu Glu 225		230	235
Thr Tyr Lys Asn Asn Glu Leu Ile Lys Val Asn Asp Phe Gln Tyr Asn 245		250	255
Glu Ser Asp Met Ile Ile Phe Gln Asn Thr Lys Glu Lys Asp Lys Asp 260		265	270
Gln Tyr Thr Asn Thr Lys Ile Glu Tyr Glu Tyr Asn Lys Asp Asn Gln 275		280	285
Leu Lys Ser Lys Lys Ile Tyr Glu Asn Asp Ile Ile Tyr Leu Lys Thr 290		295	300
Glu Tyr His Asn Asp Asn Glu Tyr Glu Glu Glu Ile Tyr Tyr Asn Lys 305		310	315
Lys Pro Ala Leu Arg Val Lys His Lys Asn Gly Lys Val Thr Glu Glu 325		330	335
Lys Pro Ile Gly Thr Asn 340			

&lt;210&gt; 565

&lt;211&gt; 323

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 565

Ser Tyr Phe Ala Ser Asp Val Phe Phe Asn Lys Tyr Gln Lys Leu Asn  
 1 5 10 15

Glu Lys Pro Lys Thr Gly Phe Tyr Ile Glu Tyr Tyr Ser Val Asp Asp  
 20 25 30

Thr Glu Lys Leu Tyr Leu Tyr Lys Glu Asn Asn Leu Ile Lys Tyr Lys  
 35 40 45

Thr Ile Gln Ile Ile Glu Asn Thr Lys Lys Ile Thr Cys Tyr Asp Thr  
 50 55 60

Lys Asp Thr Lys Arg Lys Glu Glu Ile Tyr Asp Asn Leu Asn Asn Lys  
 65 70 75 80

Ile Gln Glu Ile Glu Tyr Asp Ser Lys Gly Lys Thr Leu Glu Thr Ala  
 85 90 95

Asn Tyr Val Tyr Glu Asn Glu Asn Leu Ile Ser Lys Asn Leu Lys Thr  
 100 105 110

Ile Asn Gln Lys Pro Lys Leu Ile Tyr Tyr Ser Lys Asp Asp Asn Gly  
 115 120 125

Lys Leu Leu Lys Ile Thr Gly Ser Asn Phe Gln Ile Trp Asn Tyr Gly  
 130 135 140

Ile Asn Gly Asp Ile Lys Ser Thr Tyr Phe Asp Ile Lys Lys Ala Thr  
 145 150 155 160

Thr Lys Val Ile Lys Tyr Asp Asp Lys Lys Arg Asn Ser Asn Ser Thr  
 165 170 175

Ile Ile Val Asn Asn Lys Ile Lys Ser Lys Glu Lys Asn Gln Tyr Leu  
 180 185 190

Asp Glu Glu Lys Ile Val Asn Thr Phe Glu Glu Glu Asn Thr Lys Ile  
 195 200 205

Ile Ser Thr Tyr Lys Ala Asn Asn Leu Ile Lys Glu Glu Thr Tyr Lys  
 210 215 220

Asn Asn Glu Leu Ile Lys Val Asn Asp Phe Gln Tyr Asn Glu Ser Asp  
 225 230 235 240

Met Ile Ile Phe Gln Asn Thr Lys Glu Lys Asp Lys Asp Gln Tyr Thr  
 245 250 255

Asn Thr Lys Ile Glu Tyr Glu Tyr Asn Lys Asp Asn Gln Leu Lys Ser  
 260 265 270

Lys Lys Ile Tyr Glu Asn Asp Ile Ile Tyr Leu Lys Thr Glu Tyr His  
 275 280 285

Asn Asp Asn Glu Tyr Glu Glu Glu Ile Tyr Tyr Asn Lys Lys Pro Ala  
 290 295 300

Leu Arg Val Lys His Lys Asn Gly Lys Val Thr Glu Glu Lys Pro Ile  
 305 310 315 320

Gly Thr Asn

<210> 566  
 <211> 1029  
 <212> DNA  
 <213> Homo sapiens

<400> 566  
 atgaaaaaaa aacaattaat acttcttctt tttatgccac aaattattta tgcaaaaagc 60  
 tatttttgc atgatgtatt tttcaataaa taccaaaaat taaatgaaaa accaaaaaacg 120  
 ggggtttata ttgagtatta ttctgttgat gatactgaaa aactctacct atacaaagaa 180  
 aataacttaa taaaatacaa aacaattcaa atcatagaaa acacaaaaaa aattacatgt 240  
 tatgatacaa aagatacaaa aagaaaagaa gagattttacg ataattttaa taacaaaata 300  
 caagaaattg aatatgatag caaaggaaaa actcttgaaa cagcaaatga cgtttatgaa 360  
 aacgaaaact taatatctaa aaatttataa acaataaacc aaaaaccaaa attaatatat 420  
 tattctaaag acgacaatgg taaattacta aaaataacag gatcaaattt ccaaatttgg 480  
 aactatggaa ttaattggcg cataaaatct acatattttg acatcaaaaa agcaacaaca 540  
 aaagttataa aatatgatga taaaaaaga aattcaaca gtacaataat tgtaataat 600  
 aaaataaaat ccaaagaaaa aaaccaatat ttagatgaag aaaaaatag aaataccttt 660  
 gaagaagaga atacaaaaat catatctacc tacaaggcaa acaacctaat taaagaagaa 720  
 acatataaaa ataatgaact tataaaagta aatgattttc aatacaacga atctgatatg 780  
 ataatttttc aaaacactaa agaaaaggat aaagaccaat acaccaatac taaaattgaa 840  
 tacgaatata acaaagacaa tcaattaaaa agcaaaaaaa tttatgagaa cgatataatt 900  
 tatctaaaaa ctgaatacca caatgacaat gaatatgaag aagaaatata ctacaataaa 960  
 aaacctgtct ttagggtaaa acacaagaac ggaaaagtca ccgaagaaaa accaatagga 1020  
 acaaattaa 1029

<210> 567  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 567  
 agctattttg catctgatgt atttttcaat aaataccaaa aattaaatga aaaacaaaa 60  
 acgggggttt atattgagta ttattctggt gatgatactg aaaaactcta cctatacaaa 120  
 gaaaataact taataaaata caaaacaatt caaatcatag aaaacacaaa aaaaattaca 180  
 tgttatgata caaaagatac aaaaagaaaa gaagagattt acgataattt aaataacaaa 240  
 atacaagaaa ttgaatatga tagcaaagga aaaactcttg aaacagcaaa ttacgtttat 300  
 gaaaacgaaa acttaatatc taaaaattta aaaacaataa accaaaaacc aaaattaata 360  
 tattattcta aagacgacaa tggtaaatta ctaaaaataa caggatcaaa tttccaaatt 420  
 tggaactatg gaattaatgg cgacataaaa tctacatatt ttgacatcaa aaaagcaaca 480  
 acaaaaagta taaaatatga tgataaaaaa agaaattcaa acagtacaat aattgttaat 540  
 aataaaataa aatccaaaga aaaaaaccaa tatttagatg aagaaaaaat agtaaatacc 600  
 tttgaagaag agaatacaaa aatcatatct acctacaagg caaacaacct aattaaagaa 660  
 gaaacatata aaaataatga acttataaaa gtaaattgatt ttcaatacaa cgaatctgat 720  
 atgataattt ttcaaaacac taaagaaaag gataaagacc aatacaccaa tactaaaatt 780  
 gaatacgaat ataacaaaga caatcaatta aaaagcaaaa aaattttatga gaacgatata 840  
 atttatctaa aaactgaata ccacaatgac aatgaatatg aagaagaaat atactacaat 900  
 aaaaaacctg ctcttagggg aaaaacacaag aacggaaaag tcaccgaaga aaaaccaata 960  
 ggaacaaatt aa 972

<210> 568  
 <211> 469  
 <212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 568

```

Met Glu Lys Leu Lys Leu Lys Leu Ala Ile Pro Leu Leu Val Phe Thr
 1              5              10              15

Ile Cys Lys Ile His Ser Gln Ser Asn Ile Glu Tyr Asn Phe Ser Tyr
      20              25              30

Ile Ile Asn Thr Lys Lys Glu Asn Ile Asp Leu Lys Lys Gly Ile Glu
      35              40              45

Lys Gln Leu Asp Lys Ile Tyr Asp Lys Ile Thr Glu His Ile Val Asn
      50              55              60

Asn Asp Asp Lys Ser Ile Ile Glu Asp Ile Tyr Ile Asn Gln Asp Ile
      65              70              75              80

Ile Lys Thr Glu Leu Glu Ile Ser Lys Leu Lys Lys Glu Met Asp Lys
      85              90              95

Lys Lys Leu Gln Asn Ile Ile Thr Ala Lys Glu Lys His Asn Thr Lys
      100              105              110

Thr Lys Ile Asp Glu Leu Lys Lys Asn Ile Gln Asn Ile Asn Asn Lys
      115              120              125

Gln Lys Lys Phe Ala Glu Tyr Phe Asn Asn Leu Lys Lys Leu Lys Val
      130              135              140

Lys Tyr Lys Lys Ile Glu Glu Gln Thr Asn Ile Ser Asn Leu Asn Lys
      145              150              155              160

Glu Phe Phe Ile Arg Glu Glu Leu Phe Phe Ile Asn Tyr Ile Asp Leu
      165              170              175

Lys Lys Ile Glu Asn Tyr Tyr Leu Leu Glu Ile Ser Asn Ile Thr Pro
      180              185              190

Glu Lys Ile Glu Thr Lys Lys Ala Val Phe Lys Thr Ser Ser Ser Val
      195              200              205

Asn Glu Ile Ala Asp His Ile Thr Lys Tyr Ser Leu Lys Glu Ile Leu
      210              215              220

Gly Arg Glu Phe Leu Lys Ile Asn Ile Asn Val Lys Asn Asn Ser Asp
      225              230              235              240

Ala Lys Ile Tyr Ile Asn Glu Lys Phe Val Ser Lys Gly Ile Tyr His
      245              250              255

Asp Asn Ile Phe Asp Ile Ser Lys Leu Pro Asn Lys Glu Ile Glu Ile
      260              265              270

Gln Ile Thr Ser Ala Asn Phe Glu Asn Tyr Ser Ile Lys Arg Thr Val
      275              280              285

Lys Asn Ala Asp Ser Ile Ile Leu Asp Ile Asp Leu Lys Arg Thr Ile

```

290                      295                      300  
 Ser Lys Lys Val Ser Ile Lys Ser Asn Val Gln Ser Lys Val Phe Lys  
 305                      310                      315                      320  
 Lys Gly Ile Phe Met Gly Glu Thr Pro Ile Glu Ile Glu Lys Pro Glu  
                     325                      330                      335  
 Asn Gln Asp Ile Ile Leu Leu Lys Ser Lys Gly Tyr Lys Asp Lys Phe  
                     340                      345                      350  
 Lys Leu Ile Asn Lys Glu Glu Asp Gln Val Glu Ile Glu Met Ile Lys  
                     355                      360                      365  
 Thr Asn Lys Asn Arg Leu Ile Asp Thr Arg Asp Lys Phe Tyr Val Asn  
                     370                      375                      380  
 Leu Ala Val Phe Thr Leu Ser Thr Ile Gly Ala Ile Phe Ala Gly Thr  
 385                      390                      395                      400  
 Leu Leu Asn Asn Ser Glu Val Leu Tyr Lys Ile Thr Gly Asn His Phe  
                     405                      410                      415  
 Ile Asn Lys Arg Leu Thr Ala Glu Asp Val Tyr Met Ala Lys Ala Glu  
                     420                      425                      430  
 Gln Met Thr Ala Thr Phe Leu Phe Gly Val Gly Ile Thr Leu Thr Ile  
                     435                      440                      445  
 Gly Ser Phe Ile Ser Leu Ile Thr His Leu Val Glu Tyr Ile Lys Glu  
                     450                      455                      460  
 Ala Asn Met Gly Glu  
 465  
 <210> 569  
 <211> 446  
 <212> PRT  
 <213> Homo sapiens  
 <400> 569  
 Ser Asn Ile Glu Tyr Asn Phe Ser Tyr Ile Ile Asn Thr Lys Lys Glu  
   1                      5                      10                      15  
 Asn Ile Asp Leu Lys Lys Gly Ile Glu Lys Gln Leu Asp Lys Ile Tyr  
                     20                      25                      30  
 Asp Lys Ile Thr Glu His Ile Val Asn Asn Asp Asp Lys Ser Ile Ile  
                     35                      40                      45  
 Glu Asp Ile Tyr Ile Asn Gln Asp Ile Ile Lys Thr Glu Leu Glu Ile  
                     50                      55                      60  
 Ser Lys Leu Lys Lys Glu Met Asp Lys Lys Lys Leu Gln Asn Ile Ile  
   65                      70                      75                      80  
 Thr Ala Lys Glu Lys His Asn Thr Lys Thr Lys Ile Asp Glu Leu Lys  
                     85                      90                      95



Lys Asn Ile Gln Asn Ile Asn Asn Lys Gln Lys Lys Phe Ala Glu Tyr  
 100 105 110  
 Phe Asn Asn Leu Lys Lys Leu Lys Val Lys Tyr Lys Lys Ile Glu Glu  
 115 120 125  
 Gln Thr Asn Ile Ser Asn Leu Asn Lys Glu Phe Phe Ile Arg Glu Glu  
 130 135 140  
 Leu Phe Phe Ile Asn Tyr Ile Asp Leu Lys Lys Ile Glu Asn Tyr Tyr  
 145 150 155 160  
 Leu Leu Glu Ile Ser Asn Ile Thr Pro Glu Lys Ile Glu Thr Lys Lys  
 165 170 175  
 Ala Val Phe Lys Thr Ser Ser Ser Val Asn Glu Ile Ala Asp His Ile  
 180 185 190  
 Thr Lys Tyr Ser Leu Lys Glu Ile Leu Gly Arg Glu Phe Leu Lys Ile  
 195 200 205  
 Asn Ile Asn Val Lys Asn Asn Ser Asp Ala Lys Ile Tyr Ile Asn Glu  
 210 215 220  
 Lys Phe Val Ser Lys Gly Ile Tyr His Asp Asn Ile Phe Asp Ile Ser  
 225 230 235 240  
 Lys Leu Pro Asn Lys Glu Ile Glu Ile Gln Ile Thr Ser Ala Asn Phe  
 245 250 255  
 Glu Asn Tyr Ser Ile Lys Arg Thr Val Lys Asn Ala Asp Ser Ile Ile  
 260 265 270  
 Leu Asp Ile Asp Leu Lys Arg Thr Ile Ser Lys Lys Val Ser Ile Lys  
 275 280 285  
 Ser Asn Val Gln Ser Lys Val Phe Lys Lys Gly Ile Phe Met Gly Glu  
 290 295 300  
 Thr Pro Ile Glu Ile Glu Lys Pro Glu Asn Gln Asp Ile Ile Leu Leu  
 305 310 315 320  
 Lys Ser Lys Gly Tyr Lys Asp Lys Phe Lys Leu Ile Asn Lys Glu Glu  
 325 330 335  
 Asp Gln Val Glu Ile Glu Met Ile Lys Thr Asn Lys Asn Arg Leu Ile  
 340 345 350  
 Asp Thr Arg Asp Lys Phe Tyr Val Asn Leu Ala Val Phe Thr Leu Ser  
 355 360 365  
 Thr Ile Gly Ala Ile Phe Ala Gly Thr Leu Leu Asn Asn Ser Glu Val  
 370 375 380  
 Leu Tyr Lys Ile Thr Gly Asn His Phe Ile Asn Lys Arg Leu Thr Ala  
 385 390 395 400

Glu Asp Val Tyr Met Ala Lys Ala Glu Gln Met Thr Ala Thr Phe Leu  
 405 410 415

Phe Gly Val Gly Ile Thr Leu Thr Ile Gly Ser Phe Ile Ser Leu Ile  
 420 425 430

Thr His Leu Val Glu Tyr Ile Lys Glu Ala Asn Met Gly Glu  
 435 440 445

<210> 570

<211> 1410

<212> DNA

<213> Homo sapiens

<400> 570

```

atggaaaagc ttaaactaaa gctagcaata ccattgctag tatttacaat atgcaaaaata 60
cattctcaaa gtaattattga atacaatttt tcttatatca ttaatacaaa aaaagaaaat 120
attgacctaa aaaagggtat tgaaaaacaa ttggacaaaa tctatgataa aataacagaa 180
catatagtaa acaatgatga caagagcatc attgaagaca tttatataaa tcaagatata 240
ataaaaaacag aacttgaaat tagcaaatta aaaaaagaaa tggataaaaa aaaacttcaa 300
aacataataa ccgcaaaaaga aaagcataac accaaaacca aaattgatga gcttaaaaaa 360
aatattcaaa atattaacaa taaacaaaaa aaatttgcag aatattttta caattttaa 420
aaactaaaag taaaatataa aaaaatcgaa gagcaaacia atatatcaaa tttaaataaa 480
gaatttttta taagagaaga attatttttt attaactata ttgatcttaa aaaaatagaa 540
aattattatt tgctagaaat tagcaacatc actcctgaga aaattgagac taaaaaagcg 600
gtattttaa catcatcttc tgtaaatgaa attgcagatc acataacaaa atacagcctc 660
aaagaaatat tgggcagaga attttttaaa atcaacatta acgtcaaaaa taactcggat 720
gcaaaaatct acataaaatga aaaatttgtt tcaaaaggaa tctatcacga taatattttt 780
gacattttcta aactcccaaa caaagaaatt gaaatacaaa tcacaagtgc aaatttcgaa 840
aactatttcta ttaaaagaac ggtaaaaaat gcagactcaa taatattaga tattgactta 900
aaaagaacaa tctctaaaaa agtatcaatt aaaagcaatg tacaatctaa agttttttaa 960
aaaggaatat ttatgggaga aaccccaatt gaaattgaaa aaccagaaaa tcaagatatc 1020
atcttgctta aatctaaagg atataaagat aaattcaagt taataaataa agaagaagat 1080
caagtagaaa tagaaatgat aaaaactaac aaaaatagac ttatcgacac aagagataaa 1140
ttttatgtca atctggccgt ctttacatta agcacaatag gagccatttt tgcaggaaca 1200
ttgcttaaca attcagaagt actttataaa ataacaggca atcactttat taacaaaaga 1260
ttaacagcag aagatgttta tatggcaaaa gcggaacaaa tgactgcaac atttctattt 1320
ggagtaggaa tcactttaac tattggaagc tttatctcat taataactca tttagtagaa 1380
tatattaaag aagcaaatat gggagaatag 1410

```

<210> 571

<211> 1341

<212> DNA

<213> Homo sapiens

<400> 571

```

agtaatattg aatacaattt ttcctatata attaatacaa aaaaagaaaa tattgacctt 60
aaaaagggtt ttgaaaaaca attggacaaa atctatgata aaataacaga acatatagta 120
aacaatgatg acaagagcat cattgaagac atttatataa atcaagatat aataaaaaaca 180
gaacttgaaa ttagcaaatt aaaaaaagaa atggataaaa aaaaacttca aaacataata 240
accgcaaaag aaaagcataa caccaaaacc aaattgatg agcttaaaaa aatatttcaa 300
aatattaaca ataaacaaaa aaaatttgcg gaatatttta acaattttaa aaaactaaaa 360
gtaaaatata aaaaaatcga agagcaaaca aatatatcaa atttaataaa agaatttttt 420
ataagagaag aattattttt tattaactat attgatctta aaaaaataga aaattattat 480
ttgctagaaa ttagcaacat cactcctgag aaaattgaga ctaaaaaagc ggtattttaa 540
acatcatctt ctgttaatga aattgcagat cacataacaa aatacagcct caaagaaata 600
ttgggcagag aattttttaa aatcaacatt aacgtcaaaa ataactcgga tgcaaaaatc 660
tacataaatg aaaaatttgt ttcaaaagga atctatcacg ataatttttt tgacattttt 720

```

```

aaactcccaa acaaagaaat tgaaatacaa atcacaagtg caaatttcga aaactattct 780
attaaaaaga cggtaaaaaa tgcagactca ataatttag atattgactt aaaaagaaca 840
atctctaaaa aagtatcaat taaaagcaat gtacaatcta aagtttttaa aaaaggaata 900
tttatgggag aaacccaat tgaaattgaa aaaccagaaa atcaagatat catcttgctt 960
aaatctaaag gatataaaga taaattcaag ttaataaata aagaagaaga tcaagtagaa 1020
atagaaatga taaaaactaa caaaaataga cttatcgaca caagagataa attttatgtc 1080
aatctggccg tctttacatt aagcacaata ggagccattt ttgcaggaac attgcttaac 1140
aattcagaag tactttataa aataacaggc aatcacttta ttaacaaaag attaacagca 1200
gaagatgttt atatggcaaa agcggaaaca atgactgcaa catttctatt tggagtagga 1260
atcactttta ctattggaag ctttatctca ttaataactc atttagtaga atatattaaa 1320
gaagcaataa tgggagaata g                                     1341

```

<210> 572

<211> 490

<212> PRT

<213> Homo sapiens

<400> 572

```

Met Val Arg Phe Leu Gly Phe Leu Tyr Leu Ile Thr Thr Ile Pro Leu
  1           5           10           15

```

```

Ile Lys Ser Cys Asp Ala Ala Gln Phe Gly Asp Tyr Lys Pro Leu Tyr
          20           25           30

```

```

Phe Glu Asn Glu Asn Asp Leu Lys Thr Ala Asn Glu Tyr Ile Asn Ser
          35           40           45

```

```

Leu Gly Tyr Lys Thr Ile Ser Glu Tyr Thr Thr Lys Ile Asp Ile Leu
          50           55           60

```

```

Asp Phe Pro Glu Asn Lys Glu Ile Thr Ile Asn Glu Ile Asn Lys Leu
          65           70           75           80

```

```

Asn Asn Leu Asp Leu Arg Lys Ser Ile Phe Leu Lys Lys Leu Ser Asn
          85           90           95

```

```

Leu Phe Asn Ile Glu His Lys Lys Leu Leu Tyr Val Glu Asn Arg Phe
          100          105          110

```

```

Lys Ser Ile Asn Phe Lys Asn Leu Lys Lys Glu Leu Asn Ile Asn Ala
          115          120          125

```

```

Asp Ile His Ser Leu Asp Tyr Lys Thr Lys Ile Asn Phe Ile Ser Ser
          130          135          140

```

```

Ile Ile Phe Leu Ile Ile Ile Ile Leu Leu Ile Phe Leu Asp Pro Thr
          145          150          155          160

```

```

Asn Ser Ile Phe Thr Leu Ile Phe Leu Leu Ile Ser Ser Leu Ala Phe
          165          170          175

```

```

Met Ile Ser Lys Glu Ile Met Tyr Phe Tyr Pro Phe Thr Val Leu Ser
          180          185          190

```

```

Tyr Leu Leu Phe Leu Ile Ile Ser Asn Phe Asn Lys Asn Tyr Asn Lys
          195          200          205

```

```

Ile Tyr Leu Lys Glu Ile Asn Phe Leu Thr Leu Met Thr Lys Ile Lys

```

210	215	220
His Leu Leu Phe Leu Phe Thr Phe Thr Ala Leu Tyr Phe Ile Thr Ile 225 230 235 240		
Thr Thr Phe Phe Thr Thr Asn Ile Asp Pro Thr Phe Ile Ala Phe Val 245 250 255		
Ala Ile Pro Thr Leu Cys Ile Phe Leu Ile Phe Ser Trp Ile Lys Thr 260 265 270		
Glu Ser Asn Phe Lys Asp Thr Phe Leu Phe Pro Ile Glu Ile Lys Glu 275 280 285		
Lys Lys Ile Glu Gly Lys Lys Ala Leu Lys Ser Lys Ile Ala Ile His 290 295 300		
Leu Leu Leu Phe Thr Leu Ser Leu Ile Pro Phe Ala Tyr Ser Ser Tyr 305 310 315 320		
Met Leu Asn Ser Tyr Glu Asn Ile Asn Tyr Leu Tyr Ser Lys Lys Leu 325 330 335		
Asn Tyr Phe Asp Tyr Leu Asn Pro Asn Asn Ile Tyr Ile Met Leu Gly 340 345 350		
Tyr Asn Lys Asp Met Pro Asn Ile Ile Gly Tyr Leu Ser His Ile Leu 355 360 365		
Tyr Gln Asn Glu Leu Lys Tyr Asn Ile Thr Ala Lys Tyr Gly Lys Ile 370 375 380		
Pro Lys Asp Ile Lys Glu Asn Tyr Phe Glu Ile Lys Asn Asp Lys Ile 385 390 395 400		
Glu Ile His Pro Lys Thr Val Tyr Glu Val Asp Lys Ser Phe Ile Asp 405 410 415		
Glu Ile Leu Lys Lys Asp Leu Ala Ser Leu Phe Leu Lys Asn Lys Asn 420 425 430		
Pro Ile Leu Ile Tyr Lys Glu Asn Lys Asn Asn Ile Asn Thr Asp Lys 435 440 445		
Lys Asn Tyr Lys Ile Leu Phe Phe Phe Ser Leu Pro Phe Phe Val Leu 450 455 460		
Leu Phe Leu Phe Lys Ala Ile Arg Phe Thr Ile Leu Leu Asn Ile Asn 465 470 475 480		
Glu Lys Thr Tyr Lys Lys Tyr Ile Gln Gly 485 490		

&lt;210&gt; 573

&lt;211&gt; 471

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 573

Cys Asp Ala Ala Gln Phe Gly Asp Tyr Lys Pro Leu Tyr Phe Glu Asn  
 1 5 10 15  
 Glu Asn Asp Leu Lys Thr Ala Asn Glu Tyr Ile Asn Ser Leu Gly Tyr  
 20 25 30  
 Lys Thr Ile Ser Glu Tyr Thr Thr Lys Ile Asp Ile Leu Asp Phe Pro  
 35 40 45  
 Glu Asn Lys Glu Ile Thr Ile Asn Glu Ile Asn Lys Leu Asn Asn Leu  
 50 55 60  
 Asp Leu Arg Lys Ser Ile Phe Leu Lys Lys Leu Ser Asn Leu Phe Asn  
 65 70 75 80  
 Ile Glu His Lys Lys Leu Leu Tyr Val Glu Asn Arg Phe Lys Ser Ile  
 85 90 95  
 Asn Phe Lys Asn Leu Lys Lys Glu Leu Asn Ile Asn Ala Asp Ile His  
 100 105 110  
 Ser Leu Asp Tyr Lys Thr Lys Ile Asn Phe Ile Ser Ser Ile Ile Phe  
 115 120 125  
 Leu Ile Ile Ile Ile Leu Leu Ile Phe Leu Asp Pro Thr Asn Ser Ile  
 130 135 140  
 Phe Thr Leu Ile Phe Leu Leu Ile Ser Ser Leu Ala Phe Met Ile Ser  
 145 150 155 160  
 Lys Glu Ile Met Tyr Phe Tyr Pro Phe Thr Val Leu Ser Tyr Leu Leu  
 165 170 175  
 Phe Leu Ile Ile Ser Asn Phe Asn Lys Asn Tyr Asn Lys Ile Tyr Leu  
 180 185 190  
 Lys Glu Ile Asn Phe Leu Thr Leu Met Thr Lys Ile Lys His Leu Leu  
 195 200 205  
 Phe Leu Phe Thr Phe Thr Ala Leu Tyr Phe Ile Thr Ile Thr Thr Phe  
 210 215 220  
 Phe Thr Thr Asn Ile Asp Pro Thr Phe Ile Ala Phe Val Ala Ile Pro  
 225 230 235 240  
 Thr Leu Cys Ile Phe Leu Ile Phe Ser Trp Ile Lys Thr Glu Ser Asn  
 245 250 255  
 Phe Lys Asp Thr Phe Leu Phe Pro Ile Glu Ile Lys Glu Lys Lys Ile  
 260 265 270  
 Glu Gly Lys Lys Ala Leu Lys Ser Lys Ile Ala Ile His Leu Leu Leu  
 275 280 285  
 Phe Thr Leu Ser Leu Ile Pro Phe Ala Tyr Ser Ser Tyr Met Leu Asn  
 290 295 300

Ser Tyr Glu Asn Ile Asn Tyr Leu Tyr Ser Lys Lys Leu Asn Tyr Phe  
305 310 315 320

Asp Tyr Leu Asn Pro Asn Asn Ile Tyr Ile Met Leu Gly Tyr Asn Lys  
325 330 335

Asp Met Pro Asn Ile Ile Gly Tyr Leu Ser His Ile Leu Tyr Gln Asn  
340 345 350

Glu Leu Lys Tyr Asn Ile Thr Ala Lys Tyr Gly Lys Ile Pro Lys Asp  
355 360 365

Ile Lys Glu Asn Tyr Phe Glu Ile Lys Asn Asp Lys Ile Glu Ile His  
370 375 380

Pro Lys Thr Val Tyr Glu Val Asp Lys Ser Phe Ile Asp Glu Ile Leu  
385 390 395 400

Lys Lys Asp Leu Ala Ser Leu Phe Leu Lys Asn Lys Asn Pro Ile Leu  
405 410 415

Ile Tyr Lys Glu Asn Lys Asn Asn Ile Asn Thr Asp Lys Lys Asn Tyr  
420 425 430

Lys Ile Leu Phe Phe Phe Ser Leu Pro Phe Phe Val Leu Leu Phe Leu  
435 440 445

Phe Lys Ala Ile Arg Phe Thr Ile Leu Leu Asn Ile Asn Glu Lys Thr  
450 455 460

Tyr Lys Lys Tyr Ile Gln Gly  
465 470

<210> 574

<211> 1473

<212> DNA

<213> Homo sapiens

<400> 574

```

atggtgcgtt ttttaggttt tttatatatta attacaacaa taccacttat caaatcctgt 60
gatgcagctc aatttggaga ctacaaacct ttatactttg aaaatgaaaa tgatctaaaa 120
actgccaatg aatatataaa ttcactagga tacaaaacaa tctcagaata cacaacaaaa 180
attgacattt tagactttcc cgaaaataaa gaaatcacaa taaatgagat aaacaaactt 240
aacaatcttg acctgagaaa aagcatattt ttaaaaaagc tctccaatct tttcaacata 300
gagcacaaaa aacttcttta tgttgaaaac aggtttaaaa gtataaattt taaaaaccta 360
aaaaaagaac tcaatattaa tgccgacata cattctcttg actacaaaac aaaaattaat 420
tttatttcaa gcataatatt tctaatacata ataattttat taattttttt agaccaca 480
aactctatat ttactttaat ttttctatta atttcacctc ttgcttttat gataagcaaa 540
gaaataatgt atttttatcc atttacagtt ctctcttatt tggtattttt aataatcagt 600
aattttaaca aaaattacaa taaaatatat ttaaaaagaaa taaatttttt aacactaatg 660
acaaaaataa aacacttact attttttatt acattcacag ctctatatatt cattacaatc 720
acaacctttt ttactacaaa tattgatccc actttttattg catttgctgc aataccaacc 780
ctttgcattt tcttaatttt cagctggata aaaacagaaa gcaattttta agacactttc 840
ttattcccaa tcgagattaa agagaaaaaa atagaaggaa aaaaagcttt aaatcaaaa 900
atagcaatac atctactact atttacactc tcattaattc ctttcgctta ttcaagctat 960
atgctaaatt cttatgaaaa cattaactac ctttacagta aaaaattaaa ttactttgat 1020
tatttaaata ctaataacat ttatataatg ctgggataca acaaagacat gcccaatatt 1080
atagggtacc tatcccacat tctttatcaa aacgaactaa aatacaatat taccgctaag 1140

```

```

tatggaaaaa ttcttaaaga tataaaagaa aattactttg aaatcaaaaa cgacaaaata 1200
gaaattcatc ctaaaactgt ttacgaagta gacaaatcat ttattgatga aattctttaa 1260
aaagatcttg caagtctgtt tttaaaaaat aaaaatccaa tcctaataata taaagaaaaac 1320
aagaataata tcaacacaga taaaaaaaat tacaaaatac ttttcttttt ctctttgccc 1380
ttctttgtat tactattcct atttaaagca ataagattta caattctttt aaacataaat 1440
gaaaaaacct ataaaaaata tattcaagga taa 1473

```

&lt;210&gt; 575

&lt;211&gt; 1416

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 575

```

tgtgatgcag ctcaatttgg agactacaaa cctttatact ttgaaaatga aaatgatcta 60
aaaactgcc aatgaatat aaattcacta ggatacaaaa caatctcaga atacacaaca 120
aaaattgaca ttttagactt tcccgaaaat aaagaaatca caataaatga gataaacaaa 180
cttaacaatc ttgacctgag aaaaagcata tttttaaaaa agctctccaa tcttttcaac 240
atagagcaca aaaaacttct ttatgttgaa aacagggtta aaagtataaa ttttaaaaaac 300
ctaaaaaaaag aactcaatat taatgccgac atacattctc ttgactacaa aacaaaaaatt 360
aattttattt caagcataat atttctaatt ataataattt tattaatttt ttttagacca 420
acaaactcta tattttacttt aattttttcta ttaatttcat ctcttgcttt tatgataagc 480
aaagaaaataa tgtattttta tccatttaca gttctctctt atttggtatt ttttaataatc 540
agtaattttta acaaaaatta caataaaaata tttttaaaag aaataaattt ttttaacacta 600
atgacaaaaa taaaacactt actattttta tttacattca cagctctata tttcattaca 660
atcacaaact tttttactac aaatattgat cccactttta ttgcatttgg cgcaatacca 720
acccttttgca ttttcttaat tttcagctgg ataaaaaacag aaagcaattt taaagacact 780
ttcttattcc caatcgagat taaagagaaa aaaatagaag gaaaaaaaagc ttttaaatca 840
aaaatagcaa tacatctact actatttaca ctctcattaa ttcctttcgc ttattcaagc 900
tatatgctaa attccttatga aaacattaac tacctttaca gtaaaaaaatt aaattacttt 960
gattattttaa atcctaataa catttatata atgctgggat acaacaaaga catgcccaat 1020
attatagggt acctatccca cattctttat caaaacgaac taaaatacaa tattaccgct 1080
aagtatggaa aaattcctaa agatataaaa gaaaattact ttgaaatcaa aaacgacaaa 1140
atagaaattc atcctaatac tgtttacgaa gtagacaaat catttattga tgaaatttctt 1200
aaaaaagatc ttgcaagtct gtttttaaaa aataaaaaatc caatcctaata atataaagaa 1260
aacaagaata atatcaacac agataaaaaa aattacaaaa tacttttctt tttctctttg 1320
cccttctttg tattactatt cctattttaa gcaataagat ttacaattct ttttaacata 1380
aatgaaaaaa cctataaaaa atatattcaa ggataa 1416

```

&lt;210&gt; 576

&lt;211&gt; 153

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 576

```

Met Ile Arg Ala Leu Leu Thr Asn Asp Leu Phe Leu Ser Cys Leu Val
  1           5           10           15

```

```

Ser Gly Ile Ser Ala Gln Val Ile Lys Tyr Gly Ile Gln Thr Val Lys
      20           25           30

```

```

Thr Arg Lys Leu Lys Leu Thr Pro Val His Leu Leu Lys Lys Ile Phe
    35           40           45

```

```

Leu Glu Thr Gly Gly Met Pro Ser Ser His Ser Ser Thr Val Thr Ala
    50           55           60

```

```

Leu Ser Thr Ser Ile Ala Leu Thr Glu Gly Ile Asp Thr Asn Phe Ile
    65           70           75           80

```

Ile Ala Leu Ala Phe Ala Leu Ile Thr Ile Arg Asp Ser Phe Gly Val  
85 90 95

Arg Tyr Met Ser Gly Val Gln Ala Glu Tyr Leu Asn Ala Leu Ser Glu  
100 105 110

Lys Leu Lys Lys Glu Ile Lys Ile Asp Thr Thr Lys Ile Lys Val Val  
115 120 125

Lys Gly His Lys Lys Lys Glu Val Leu Thr Gly Ile Ile Ile Gly Ile  
130 135 140

Val Ser Ala Tyr Ile Val Cys Tyr Phe  
145 150

<210> 577

<211> 133

<212> PRT

<213> Homo sapiens

<400> 577

Ala Gln Val Ile Lys Tyr Gly Ile Gln Thr Val Lys Thr Arg Lys Leu  
1 5 10 15

Lys Leu Thr Pro Val His Leu Leu Lys Lys Ile Phe Leu Glu Thr Gly  
20 25 30

Gly Met Pro Ser Ser His Ser Ser Thr Val Thr Ala Leu Ser Thr Ser  
35 40 45

Ile Ala Leu Thr Glu Gly Ile Asp Thr Asn Phe Ile Ile Ala Leu Ala  
50 55 60

Phe Ala Leu Ile Thr Ile Arg Asp Ser Phe Gly Val Arg Tyr Met Ser  
65 70 75 80

Gly Val Gln Ala Glu Tyr Leu Asn Ala Leu Ser Glu Lys Leu Lys Lys  
85 90 95

Glu Ile Lys Ile Asp Thr Thr Lys Ile Lys Val Val Lys Gly His Lys  
100 105 110

Lys Lys Glu Val Leu Thr Gly Ile Ile Ile Gly Ile Val Ser Ala Tyr  
115 120 125

Ile Val Cys Tyr Phe  
130

<210> 578

<211> 462

<212> DNA

<213> Homo sapiens

<400> 578

atgataaggg cattgcttac caatgatctt tttttgtctt gtcttgatc aggaatttct 60  
gctcaagtga ttaaataatgg tatccaaact gtaaaaacaa gaaagttaaa actaactcca 120  
gtacatcttt taataaaaaat ttttctagaa acaggaggca tgccaagtag tcattcatca 180



```

acgggtcaccg ctctttcaac ctcaatcgca ctaactgaag gaatagatac aaattttata 240
atagctcttg catttgcctt tattacaata agagattctt tcggcgtaag atatatgtct 300
ggagttcaag cagaatattt aaatgcatta tcagaaaaat taaaaaaaga aataaaaatt 360
gacacaacaa aaataaaagt ggtcaagggg cacaaaaaga aagaggttct aacgggcata 420
ataataggaa tagtctctgc gtatattgtg tgctattttt ag 462

```

<210> 579

<211> 402

<212> DNA

<213> Homo sapiens

<400> 579

```

gctcaagtga ttaaataatgg tatccaaact gtaaaaacaa gaaagttaaa actaactcca 60
gtacatcttt taaaaaaaaat ttttctagaa acaggaggca tgccaagtag tcattcatca 120
acgggtcaccg ctctttcaac ctcaatcgca ctaactgaag gaatagatac aaattttata 180
atagctcttg catttgcctt tattacaata agagattctt tcggcgtaag atatatgtct 240
ggagttcaag cagaatattt aaatgcatta tcagaaaaat taaaaaaaga aataaaaatt 300
gacacaacaa aaataaaagt ggtcaagggg cacaaaaaga aagaggttct aacgggcata 360
ataataggaa tagtctctgc gtatattgtg tgctattttt ag 402

```

<210> 580

<211> 108

<212> PRT

<213> Homo sapiens

<400> 580

```

Met Tyr Ile Gly Ala Ala Gly Lys Ser Phe Ser Ile Ile Ile Asp Ser
  1           5           10           15
Ala Phe Leu Ser Asn Cys Phe Leu Phe Ile Gly Ser Phe Ser Arg Ser
          20           25           30
Asp Ser Leu Met Ser Leu Ser Asn Ser Arg Phe Glu Tyr Pro Tyr Asp
          35           40           45
Ala Ser Cys Glu Phe Ser Leu Val Asn Ile Val Lys Tyr Val Cys Gly
          50           55           60
Ser Lys Tyr Ser Pro Met Arg Pro Thr Leu Ile Ile Ser Lys Leu Pro
          65           70           75           80
Val Phe Leu Leu Leu Val Arg Thr Gly Gln Phe Ser Leu Val Ser Ile
          85           90           95
Arg Leu Ile Phe Arg Ile Phe Phe His Trp Phe Glx
          100          105

```

<210> 581

<211> 87

<212> PRT

<213> Homo sapiens

<400> 581

```

Cys Phe Leu Phe Ile Gly Ser Phe Ser Arg Ser Asp Ser Leu Met Ser
  1           5           10           15
Leu Ser Asn Ser Arg Phe Glu Tyr Pro Tyr Asp Ala Ser Cys Glu Phe
          20           25           30

```

Ser Leu Val Asn Ile Val Lys Tyr Val Cys Gly Ser Lys Tyr Ser Pro  
 35 40 45

Met Arg Pro Thr Leu Ile Ile Ser Lys Leu Pro Val Phe Leu Leu Leu  
 50 55 60

Val Arg Thr Gly Gln Phe Ser Leu Val Ser Ile Arg Leu Ile Phe Arg  
 65 70 75 80

Ile Phe Phe His Trp Phe Glx  
 85

<210> 582

<211> 324

<212> DNA

<213> Homo sapiens

<400> 582

atgtatatg gtgcagcagg aaaatctttt tcaattatta ttgattctgc ttttctgagt 60  
 aattgttttc tttttatagg atctttttca agatctgatt ctctgatgag tttgtcaaag 120  
 tctaggtttg aatatccgta tgatgcaagt tgtgaatttt ctcttgatgaa tatagtaaag 180  
 tatgtgtgtg gatctaaata ttccccaatg cgtccaactc ttattatttc aaaattgcca 240  
 gtatttctgc tgttggttaag aacaggccaa ttttcggttg taagcataag attgatattt 300  
 agaatttttt tccattggtt ttga 324

<210> 583

<211> 261

<212> DNA

<213> Homo sapiens

<400> 583

tgttttcttt ttataggatc tttttcaaga tctgattctc tgatgagttt gtcaaattct 60  
 aggtttgaat atccgtatga tgcaagttgt gaattttctc ttgtgaatat agtaaagtat 120  
 gtgtgtggat ctaaattatc cccaatgcgt ccaactctta ttatttcaaa attgccagta 180  
 tttctgctgt tggttaagaac aggccaaatt tcgttggtta gcataagatt gatatttaga 240  
 atttttttcc attggttttg a 261

<210> 584

<211> 529

<212> PRT

<213> Homo sapiens

<400> 584

Met Lys Leu Gln Arg Ser Leu Phe Leu Ile Ile Phe Phe Leu Thr Phe  
 1 5 10 15

Leu Cys Cys Asn Asn Lys Glu Arg Lys Glu Gly Val Ser Phe Lys Ile  
 20 25 30

Ser Leu Gly Ala Glu Pro Ser Ser Leu Asp Pro Gln Leu Ala Glu Asp  
 35 40 45

Asn Val Ala Ser Lys Met Ile Asp Thr Met Phe Arg Gly Ile Val Thr  
 50 55 60

Gly Asp Pro Asn Thr Gly Gly Asn Lys Pro Gly Leu Ala Lys Gly Trp  
 65 70 75 80

Asp	Ile	Ser	Ser	Asp	Gly	Thr	Val	Tyr	Thr	Phe	Asn	Leu	Arg	Glu	Lys	85	90	95
Ile	Thr	Trp	Ser	Asp	Gly	Val	Ala	Ile	Thr	Ala	Glu	Gly	Ile	Arg	Lys	100	105	110
Ser	Tyr	Leu	Arg	Ile	Leu	Asn	Lys	Glu	Thr	Gly	Ser	Lys	Tyr	Val	Glu	115	120	125
Met	Val	Lys	Ser	Val	Ile	Lys	Asn	Gly	Gln	Lys	Tyr	Phe	Asp	Gly	Gln	130	135	140
Val	Thr	Asp	Ser	Glu	Leu	Gly	Ile	Arg	Ala	Ile	Asp	Glu	Lys	Thr	Leu	145	150	155
Glu	Ile	Thr	Leu	Glu	Ser	Pro	Lys	Pro	Tyr	Phe	Ile	Asp	Met	Leu	Val	165	170	175
His	Gln	Ser	Phe	Ile	Pro	Val	Pro	Val	His	Val	Thr	Glu	Lys	Tyr	Gly	180	185	190
Gln	Asn	Trp	Thr	Ser	Pro	Glu	Asn	Met	Val	Thr	Ser	Gly	Pro	Phe	Lys	195	200	205
Leu	Lys	Glu	Arg	Ile	Pro	Asn	Glu	Lys	Tyr	Val	Phe	Glu	Lys	Asn	Asn	210	215	220
Lys	Tyr	Tyr	Asp	Ser	Asn	Glu	Val	Glu	Leu	Glu	Glu	Ile	Thr	Phe	Tyr	225	230	235
Thr	Thr	Asn	Asp	Ser	Ser	Thr	Ala	Tyr	Lys	Met	Tyr	Glu	Asn	Glu	Glu	245	250	255
Leu	Asp	Ala	Ile	Phe	Gly	Ser	Ile	Pro	Pro	Asp	Leu	Ile	Lys	Asn	Leu	260	265	270
Lys	Leu	Arg	Ser	Asp	Tyr	Tyr	Ser	Ser	Ala	Val	Asn	Ala	Ile	Tyr	Phe	275	280	285
Tyr	Ala	Phe	Asn	Thr	His	Ile	Lys	Pro	Leu	Asp	Asn	Val	Lys	Ile	Arg	290	295	300
Lys	Ala	Leu	Thr	Leu	Ala	Ile	Asp	Arg	Glu	Thr	Leu	Thr	Tyr	Lys	Val	305	310	315
Leu	Asp	Asn	Gly	Thr	Thr	Pro	Thr	Arg	Arg	Ala	Thr	Pro	Asn	Phe	Ser	325	330	335
Ser	Tyr	Ser	Tyr	Ala	Lys	Ser	Leu	Glu	Leu	Phe	Asn	Pro	Glu	Ile	Ala	340	345	350
Lys	Thr	Leu	Leu	Ala	Glu	Ala	Gly	Tyr	Pro	Asn	Gly	Asn	Gly	Phe	Pro	355	360	365
Ile	Leu	Lys	Leu	Lys	Tyr	Asn	Thr	Asn	Glu	Ala	Asn	Lys	Lys	Ile	Cys	370	375	380

Glu Phe Ile Gln Asn Gln Trp Lys Lys Asn Leu Asn Ile Asp Val Glu  
 385 390 395 400  
 Leu Glu Asn Glu Glu Trp Thr Thr Tyr Leu Asn Thr Lys Ala Asn Gly  
 405 410 415  
 Asn Tyr Glu Ile Ala Arg Ala Gly Trp Ile Gly Asp Tyr Ala Asp Pro  
 420 425 430  
 Leu Thr Phe Leu Ser Ile Phe Thr Gln Gly Tyr Thr Gln Phe Ser Ser  
 435 440 445  
 His Asn Tyr Ser Asn Pro Glu Tyr Asn Glu Leu Ile Lys Lys Ser Asp  
 450 455 460  
 Leu Glu Leu Asp Pro Ile Lys Arg Gln Asp Ile Leu Arg Gln Ala Glu  
 465 470 475 480  
 Glu Ile Ile Ile Glu Lys Asp Phe Pro Ile Ala Pro Ile Tyr Ile Tyr  
 485 490 495  
 Gly Asn Ser Tyr Leu Phe Arg Asn Asp Lys Trp Thr Gly Trp Asn Thr  
 500 505 510  
 Asn Ile Leu Glu Arg Phe Asp Leu Ser Gln Leu Lys Leu Lys Asn Lys  
 515 520 525

Glx

&lt;210&gt; 585

&lt;211&gt; 512

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 585

Cys Cys Asn Asn Lys Glu Arg Lys Glu Gly Val Ser Phe Lys Ile Ser  
 1 5 10 15

Leu Gly Ala Glu Pro Ser Ser Leu Asp Pro Gln Leu Ala Glu Asp Asn  
 20 25 30

Val Ala Ser Lys Met Ile Asp Thr Met Phe Arg Gly Ile Val Thr Gly  
 35 40 45

Asp Pro Asn Thr Gly Gly Asn Lys Pro Gly Leu Ala Lys Gly Trp Asp  
 50 55 60

Ile Ser Ser Asp Gly Thr Val Tyr Thr Phe Asn Leu Arg Glu Lys Ile  
 65 70 75 80

Thr Trp Ser Asp Gly Val Ala Ile Thr Ala Glu Gly Ile Arg Lys Ser  
 85 90 95

Tyr Leu Arg Ile Leu Asn Lys Glu Thr Gly Ser Lys Tyr Val Glu Met  
 100 105 110

Val Lys Ser Val Ile Lys Asn Gly Gln Lys Tyr Phe Asp Gly Gln Val

115					120					125					
Thr	Asp	Ser	Glu	Leu	Gly	Ile	Arg	Ala	Ile	Asp	Glu	Lys	Thr	Leu	Glu
130						135					140				
Ile	Thr	Leu	Glu	Ser	Pro	Lys	Pro	Tyr	Phe	Ile	Asp	Met	Leu	Val	His
145					150					155					160
Gln	Ser	Phe	Ile	Pro	Val	Pro	Val	His	Val	Thr	Glu	Lys	Tyr	Gly	Gln
				165					170					175	
Asn	Trp	Thr	Ser	Pro	Glu	Asn	Met	Val	Thr	Ser	Gly	Pro	Phe	Lys	Leu
			180					185					190		
Lys	Glu	Arg	Ile	Pro	Asn	Glu	Lys	Tyr	Val	Phe	Glu	Lys	Asn	Asn	Lys
		195					200					205			
Tyr	Tyr	Asp	Ser	Asn	Glu	Val	Glu	Leu	Glu	Glu	Ile	Thr	Phe	Tyr	Thr
210					215						220				
Thr	Asn	Asp	Ser	Ser	Thr	Ala	Tyr	Lys	Met	Tyr	Glu	Asn	Glu	Glu	Leu
225					230					235					240
Asp	Ala	Ile	Phe	Gly	Ser	Ile	Pro	Pro	Asp	Leu	Ile	Lys	Asn	Leu	Lys
				245					250					255	
Leu	Arg	Ser	Asp	Tyr	Tyr	Ser	Ser	Ala	Val	Asn	Ala	Ile	Tyr	Phe	Tyr
			260					265					270		
Ala	Phe	Asn	Thr	His	Ile	Lys	Pro	Leu	Asp	Asn	Val	Lys	Ile	Arg	Lys
		275					280					285			
Ala	Leu	Thr	Leu	Ala	Ile	Asp	Arg	Glu	Thr	Leu	Thr	Tyr	Lys	Val	Leu
	290					295					300				
Asp	Asn	Gly	Thr	Thr	Pro	Thr	Arg	Arg	Ala	Thr	Pro	Asn	Phe	Ser	Ser
305					310					315					320
Tyr	Ser	Tyr	Ala	Lys	Ser	Leu	Glu	Leu	Phe	Asn	Pro	Glu	Ile	Ala	Lys
				325					330					335	
Thr	Leu	Leu	Ala	Glu	Ala	Gly	Tyr	Pro	Asn	Gly	Asn	Gly	Phe	Pro	Ile
			340					345					350		
Leu	Lys	Leu	Lys	Tyr	Asn	Thr	Asn	Glu	Ala	Asn	Lys	Lys	Ile	Cys	Glu
		355					360					365			
Phe	Ile	Gln	Asn	Gln	Trp	Lys	Lys	Asn	Leu	Asn	Ile	Asp	Val	Glu	Leu
	370					375					380				
Glu	Asn	Glu	Glu	Trp	Thr	Tyr	Leu	Asn	Thr	Lys	Ala	Asn	Gly	Asn	
385					390				395					400	
Tyr	Glu	Ile	Ala	Arg	Ala	Gly	Trp	Ile	Gly	Asp	Tyr	Ala	Asp	Pro	Leu
				405					410					415	
Thr	Phe	Leu	Ser	Ile	Phe	Thr	Gln	Gly	Tyr	Thr	Gln	Phe	Ser	Ser	His
			420					425					430		

Asn Tyr Ser Asn Pro Glu Tyr Asn Glu Leu Ile Lys Lys Ser Asp Leu  
435 440 445

Glu Leu Asp Pro Ile Lys Arg Gln Asp Ile Leu Arg Gln Ala Glu Glu  
450 455 460

Ile Ile Ile Glu Lys Asp Phe Pro Ile Ala Pro Ile Tyr Ile Tyr Gly  
465 470 475 480

Asn Ser Tyr Leu Phe Arg Asn Asp Lys Trp Thr Gly Trp Asn Thr Asn  
485 490 495

Ile Leu Glu Arg Phe Asp Leu Ser Gln Leu Lys Leu Lys Asn Lys Glx  
500 505 510

<210> 586

<211> 1587

<212> DNA

<213> Homo sapiens

<400> 586

```

atgaaattac aaaggtcatt attttttaata atatttttttc taactttttct ttgttgtaat 60
aacaaggaaa gaaaagaagg agtatcattt aaaataagct tgggagcaga gccaagcagt 120
cttgaccctc aattagcaga ggataatgtc gcatcaaaaa tgattgacac aatgtttaga 180
gggattgtta caggagatcc taatacaggg ggaaataaac cgggacttgc aaaagggtgg 240
gatatttctt ctgatggaac agtttacaca tttaacctaa gagaaaaaat cacttggagt 300
gacggagttg caatcactgc agaaggaatt agaaaatctt atcttagaat tttaaataaa 360
gaaactggct caaagtacgt tgaaatgggt aaatcggtta ttaaaaatgg tcaaaaatat 420
tttgatggac aagtgactga ctctgaactt ggaattagag cgattgatga aaaaacatta 480
gaaataacac tggaatcacc aaaaccttat tttattgata tgttagtaca ccaatcattt 540
attccagtac cagttcatgt taccgaaaag tatggacaaa actggacaag ccccgaaaac 600
atggtgacaa gtggtccttt taaattaaaa gaaagaattc ctaacgaaaa atatgtcttt 660
gaaaaaaata acaaatacta cgactcaaat gaagtagaat tagaagagat tacattttac 720
acaacaaatg acagctcaac agcgtataaa atgtatgaaa atgaagagct agatgcaatt 780
tttggttoca tacccccaga tctaatacaa aatctaaaat taagaagcga ctattactca 840
tcagctgtta atgccatata cttttacgcg ttcaatacac acatcaaacc acttgacaac 900
gttaaaatta gaaaagcctt aactcttgct attgacagag aaacgcttac atataaagtt 960
cttgacaacg ggactacccc tacaagaaga gcaactccca actttagttc atattcttat 1020
gcaaaaagtt tagaattatt taatcctgaa attgcaaaaa cccttctagc tgaagctgga 1080
tatacctaag gcaatggatt tccaatttta aaattaaaaat acaatacaaa cgaagcaaatt 1140
aaaaaaattt gtgaatttat tcaaaaaccaa tggaaaaaaa atttaaatat tgatgtggaa 1200
cttgaaaacg aagaatggac aacatactta aacactaagg caaatggaaa ttatgaaata 1260
gcaagagcag gatggatagg cgattatgct gatcctttga cattttttaag catattcaca 1320
caaggatata cacaattctc atctcataat tactcaaacc cagaatacaa cgaacttata 1380
aagaaatccg accttgagct tgatccaata aaaagacaag acatttttaag acaagcagaa 1440
gagataatta ttgaaaaaga ttttccaata gcaccaatat acatatatgg gaacagttac 1500
cttttcagaa atgacaaatg gacagggtgg aacaccaata ttttagaaag atttgattta 1560
tctcagctaa aattaaataa taaataa 1587

```

<210> 587

<211> 1536

<212> DNA

<213> Homo sapiens

&lt;400&gt; 587

```

tggtgtaata acaaggaaaag aaaagaagga gtatcattta aaataagctt gggagcagag 60
ccaagcagtc ttgaccctca attagcagag gataatgtcg catcaaaaat gattgacaca 120
atgttttagag ggattgtttac aggagatcct aatacagggg gaaataaacc gggacttgca 180
aaaggggtggg atatttcttc tgatggaaca gtttacacat ttaacctag agaaaaaatc 240
acttgagtg acggagttgc aatcactgca gaaggaatta gaaaatctta tcttagaatt 300
ttaaataaag aaactggctc aaagtacgtt gaaatggtta aatcggtaat taaaaatggg 360
caaaaaatatt ttgatggaca agtgactgac tctgaacttg gaattagagc gattgatgaa 420
aaaacattag aaataacact ggaatcacca aaaccttatt ttattgatat gttagtacac 480
caatcattta ttccagtacc agttcatgtt accgaaaagt atggacaaaa ctggacaagc 540
cccgaaaaca tggtgacaag tggctctttt aaattaaaag aaagaattcc taacgaaaaa 600
tatgtctttg aaaaaataa caaatactac gactcaaatg aagtagaatt agaagagatt 660
acattttaca caacaaatga cagctcaaca gcgtataaaa tgtatgaaaa tgaagagcta 720
gatgcaattt ttggttccat acccccagat ctaatcaaaa atctaaaatt aagaagcgac 780
tattactcat cagctgttaa tgccatatac ttttacgctg tcaatacaca catcaaacca 840
cttgacaacg ttaaaattag aaaagcctta actcttgcta ttgacagaga aacgcttaca 900
tataaagttc ttgacaacgg gactaccctt acaagaagag caactcccaa ctttagttca 960
tattcttatg caaaaagttt agaattattt aatcctgaaa ttgcaaaaac ccttctagct 1020
gaagctggat atcctaattg caatggattt ccaattttta aattaaaata caatacaaac 1080
gaagcaaata aaaaaatttg tgaatttatt caaaaccaat ggaaaaaaa tttaaatatt 1140
gatgtggaac ttgaaaacga agaattggaca acatacttaa acactaaggc aaatggaaat 1200
tatgaaatag caagagcagg atggataggc gattatgctg atcctttgac atttttaagc 1260
atattcacac aaggatacac acaatttctc tctcataatt actcaaacc agaatacaac 1320
gaacttataa agaaatccga ccttgagctt gatccaataa aaagacaaga cattttaaga 1380
caagcagaag agataattat tgaaaaagat tttccaatag caccaatata catatatggg 1440
aacagttacc ttttcagaaa tgacaaatgg acaggggtgga acaccaatat tttagaaga 1500
tttgatttat ctcagctaaa attaaaaaat aaataa 1536

```

&lt;210&gt; 588

&lt;211&gt; 718

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 588

```

Met Phe Asn Arg Ser Ser Cys Val Leu Gln Asn Phe Leu Phe Leu Phe
  1              5              10              15

Leu Phe Leu Ser Leu Val Ser Cys Phe Ala Lys Lys Glu Ile Ser Gly
      20              25              30

Asn Asn Phe Ile Lys Ala His Ser Lys Glu Phe Asp Leu Asn Asn Leu
      35              40              45

Asn Trp Leu Trp Asn Phe Asp Tyr Thr Lys Lys Asn Phe Asp Lys His
      50              55              60

Phe Asn Ile Asp Pro Ser Ser Tyr Ile Tyr Val Ala Tyr Leu Phe Lys
      65              70              75              80

Lys Ile Gly Phe Glu Glu Lys Phe Val Glu Tyr Met Lys Lys Ala Ile
      85              90              95

Ala Asn Gly Asp Ser Ile Ala Ser Gln Phe Ala Gly Ile Lys Leu Ile
      100              105              110

Glu Tyr Phe Asn Ser Ala Lys Glu Tyr Phe Ala Ser Glu Leu Ile Gly
      115              120              125

```

Glu Lys Leu Tyr Lys Lys Tyr Glu Asn Asn Lys Phe Ile Ile Leu Gly  
 130 135 140  
 Tyr Phe Lys Ser Leu Tyr Trp Gln Lys Lys Asn Asp Lys Ala Leu Ser  
 145 150 155 160  
 Leu Leu Asn Lys Leu Asp Lys Met Lys Phe Ser Asp Tyr Gln Glu Asn  
 165 170 175  
 Glu Asn Ile Leu Leu Lys Ala Val Leu Tyr Leu Asn Leu Ser Asn Val  
 180 185 190  
 Ser Glu Ser Lys Ile Tyr Phe Asn Glu Leu Phe Glu Asn Leu Pro Ala  
 195 200 205  
 Asn Tyr Leu His Val Arg Ala Tyr Asp Tyr Phe Ile Ile Glu Asn Lys  
 210 215 220  
 Ser Arg Tyr Phe Gly Ala Asn Phe Leu Asn Leu Val Arg Phe Lys Tyr  
 225 230 235 240  
 Glu Val Ala Asn Gly Asn Phe Asn Gly Ala Ile Asn Ile Leu Asn Lys  
 245 250 255  
 Asn Gly Leu Asn Asp Tyr Tyr Asp Asn Asn Ile Val Leu Ser Asp Val  
 260 265 270  
 Tyr Lys Ala Phe Ile Ser Ser Gly Lys Val Ser Asn Ala Leu Thr Phe  
 275 280 285  
 Phe Ser Lys Ile Lys Ser Lys Tyr Lys Asn Tyr Tyr Leu Gly Ile Leu  
 290 295 300  
 Asn Leu Arg Glu Lys Asn Asn Leu Gly Leu Leu Leu Lys Glu Tyr  
 305 310 315 320  
 Leu Glu Gly Leu Asp Leu Asn Asn Glu Ile Asn Arg Leu Asp Leu Leu  
 325 330 335  
 Asn Thr Ala Phe Ser Asn Leu Ile Phe Thr Lys Ser Ala Arg Asp Tyr  
 340 345 350  
 Phe Ala Glu Ser Leu Pro Lys Phe Tyr Thr Glu Gly Asp Lys Lys Asn  
 355 360 365  
 Ser Thr Phe Ile Lys Ile Leu Glu Glu Tyr Ile Leu Glu Ser Ile Gln  
 370 375 380  
 Leu Glu Asp Tyr Gly Asn Leu Tyr Lys Leu Tyr Ser Asn Ala Gln Lys  
 385 390 395 400  
 Val Ile Ser Asn Ser Val Leu Ser Lys Leu Ala Phe Ile Asn Ala Arg  
 405 410 415  
 Leu Ile Tyr His Lys Leu Ile Lys Pro Asn Val Ser Gly Glu Tyr Lys  
 420 425 430  
 Ser Leu Leu His Ser Ala Val Asn Tyr Asp Lys Trp Ser Tyr Ser Ser



435		440		445
Phe Met Ser Arg Tyr Leu	Leu Asp Gln Asn Ile Asp Glu Phe Phe Thr			
450	455	460		
Gly Gly Ser Asp Ile Lys Tyr Glu Gln Ser Asp Tyr Glu Ile Phe Leu				
465	470	475		480
Glu Gly Phe Leu Lys Phe Asn Leu Cys Asn Tyr Val Arg Gly Phe Ile				
	485	490		495
Ser Glu Asp Phe Arg Asn Gly Tyr Lys Phe Ser Leu Asp Phe Tyr Arg				
	500	505		510
Lys Val Tyr Asp Glu Leu Leu Lys Ser Glu Asn Tyr Tyr Asp Ala Thr				
	515	520		525
Leu Val Ile Asn Tyr Leu Val Asn Gln Asp Glu Ser Ala Leu Met Glu				
	530	535		540
Asn Asp Tyr Lys Arg Leu Tyr Pro Tyr Leu Tyr Gly Ser Leu Ile Glu				
545	550	555		560
Tyr Trp Ala Lys Arg Arg Gly Leu Glu Ala Ser Val Val Phe Ser Leu				
	565	570		575
Ile Lys Ala Glu Ser Ser Phe Glu Lys Asn Ala Val Ser Lys Pro Gly				
	580	585		590
Ala Val Gly Leu Met Gln Val Met Pro Ser Thr Ala Asn Asp Ile Ser				
	595	600		605
Lys Glu Leu Lys Tyr Phe Asn Tyr Asp Leu Lys Ile Pro Lys Asp Asn				
	610	615		620
Ile Ile Ile Gly Thr Tyr Tyr Leu Lys Lys Arg Ile Ser Thr Thr Gly				
625	630	635		640
Ser Leu Tyr Lys Ala Leu Ala Ser Tyr Asn Gly Gly Ile Gly Asn Val				
	645	650		655
Arg Lys Trp Glu Lys Ser Tyr Gly His Leu Ser Lys Glu Leu Phe Ile				
	660	665		670
Glu Ala Ile Pro Phe Ser Gln Thr Arg Asn Tyr Ile Lys Lys Ile Leu				
	675	680		685
Val Tyr Ser Val Phe Tyr Asp Ala Leu Tyr Glu Lys Lys Gly Ile Asp				
	690	695		700
Ser Val Ile Val Lys Ile Met Gly Glu Phe Pro Lys Asn Glx				
705	710	715		

&lt;210&gt; 589

&lt;211&gt; 695

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 589

Cys Phe Ala Lys Lys Glu Ile Ser Gly Asn Asn Phe Ile Lys Ala His  
 1 5 10 15  
 Ser Lys Glu Phe Asp Leu Asn Asn Leu Asn Trp Leu Trp Asn Phe Asp  
 20 25 30  
 Tyr Thr Lys Lys Asn Phe Asp Lys His Phe Asn Ile Asp Pro Ser Ser  
 35 40 45  
 Tyr Ile Tyr Val Ala Tyr Leu Phe Lys Lys Ile Gly Phe Glu Glu Lys  
 50 55 60  
 Phe Val Glu Tyr Met Lys Lys Ala Ile Ala Asn Gly Asp Ser Ile Ala  
 65 70 75 80  
 Ser Gln Phe Ala Gly Ile Lys Leu Ile Glu Tyr Phe Asn Ser Ala Lys  
 85 90 95  
 Glu Tyr Phe Ala Ser Glu Leu Ile Gly Glu Lys Leu Tyr Lys Lys Tyr  
 100 105 110  
 Glu Asn Asn Lys Phe Ile Ile Leu Gly Tyr Phe Lys Ser Leu Tyr Trp  
 115 120 125  
 Gln Lys Lys Asn Asp Lys Ala Leu Ser Leu Leu Asn Lys Leu Asp Lys  
 130 135 140  
 Met Lys Phe Ser Asp Tyr Gln Glu Asn Glu Asn Ile Leu Leu Lys Ala  
 145 150 155 160  
 Val Leu Tyr Leu Asn Leu Ser Asn Val Ser Glu Ser Lys Ile Tyr Phe  
 165 170 175  
 Asn Glu Leu Phe Glu Asn Leu Pro Ala Asn Tyr Leu His Val Arg Ala  
 180 185 190  
 Tyr Asp Tyr Phe Ile Ile Glu Asn Lys Ser Arg Tyr Phe Gly Ala Asn  
 195 200 205  
 Phe Leu Asn Leu Val Arg Phe Lys Tyr Glu Val Ala Asn Gly Asn Phe  
 210 215 220  
 Asn Gly Ala Ile Asn Ile Leu Asn Lys Asn Gly Leu Asn Asp Tyr Tyr  
 225 230 235 240  
 Asp Asn Asn Ile Val Leu Ser Asp Val Tyr Lys Ala Phe Ile Ser Ser  
 245 250 255  
 Gly Lys Val Ser Asn Ala Leu Thr Phe Phe Ser Lys Ile Lys Ser Lys  
 260 265 270  
 Tyr Lys Asn Tyr Tyr Leu Gly Ile Leu Asn Leu Arg Glu Lys Asn Asn  
 275 280 285  
 Leu Gly Leu Leu Leu Leu Lys Glu Tyr Leu Glu Gly Leu Asp Leu Asn  
 290 295 300

Asn Glu Ile Asn Arg Leu Asp Leu Leu Asn Thr Ala Phe Ser Asn Leu  
 305 310 315 320  
 Ile Phe Thr Lys Ser Ala Arg Asp Tyr Phe Ala Glu Ser Leu Pro Lys  
 325 330 335  
 Phe Tyr Thr Glu Gly Asp Lys Lys Asn Ser Thr Phe Ile Lys Ile Leu  
 340 345 350  
 Glu Glu Tyr Ile Leu Glu Ser Ile Gln Leu Glu Asp Tyr Gly Asn Leu  
 355 360 365  
 Tyr Lys Leu Tyr Ser Asn Ala Gln Lys Val Ile Ser Asn Ser Val Leu  
 370 375 380  
 Ser Lys Leu Ala Phe Ile Asn Ala Arg Leu Ile Tyr His Lys Leu Ile  
 385 390 395 400  
 Lys Pro Asn Val Ser Gly Glu Tyr Lys Ser Leu Leu His Ser Ala Val  
 405 410 415  
 Asn Tyr Asp Lys Trp Ser Tyr Ser Ser Phe Met Ser Arg Tyr Leu Leu  
 420 425 430  
 Asp Gln Asn Ile Asp Glu Phe Phe Thr Gly Gly Ser Asp Ile Lys Tyr  
 435 440 445  
 Glu Gln Ser Asp Tyr Glu Ile Phe Leu Glu Gly Phe Leu Lys Phe Asn  
 450 455 460  
 Leu Cys Asn Tyr Val Arg Gly Phe Ile Ser Glu Asp Phe Arg Asn Gly  
 465 470 475 480  
 Tyr Lys Phe Ser Leu Asp Phe Tyr Arg Lys Val Tyr Asp Glu Leu Leu  
 485 490 495  
 Lys Ser Glu Asn Tyr Tyr Asp Ala Thr Leu Val Ile Asn Tyr Leu Val  
 500 505 510  
 Asn Gln Asp Glu Ser Ala Leu Met Glu Asn Asp Tyr Lys Arg Leu Tyr  
 515 520 525  
 Pro Tyr Leu Tyr Gly Ser Leu Ile Glu Tyr Trp Ala Lys Arg Arg Gly  
 530 535 540  
 Leu Glu Ala Ser Val Val Phe Ser Leu Ile Lys Ala Glu Ser Ser Phe  
 545 550 555 560  
 Glu Lys Asn Ala Val Ser Lys Pro Gly Ala Val Gly Leu Met Gln Val  
 565 570 575  
 Met Pro Ser Thr Ala Asn Asp Ile Ser Lys Glu Leu Lys Tyr Phe Asn  
 580 585 590  
 Tyr Asp Leu Lys Ile Pro Lys Asp Asn Ile Ile Ile Gly Thr Tyr Tyr  
 595 600 605  
 Leu Lys Lys Arg Ile Ser Thr Thr Gly Ser Leu Tyr Lys Ala Leu Ala

610                      615                      620

Ser Tyr Asn Gly Gly Ile Gly Asn Val Arg Lys Trp Glu Lys Ser Tyr  
 625                      630                      635                      640

Gly His Leu Ser Lys Glu Leu Phe Ile Glu Ala Ile Pro Phe Ser Gln  
                     645                      650                      655

Thr Arg Asn Tyr Ile Lys Lys Ile Leu Val Tyr Ser Val Phe Tyr Asp  
                     660                      665                      670

Ala Leu Tyr Glu Lys Lys Gly Ile Asp Ser Val Ile Val Lys Ile Met  
                     675                      680                      685

Gly Glu Phe Pro Lys Asn Glx  
                     690                      695

&lt;210&gt; 590

&lt;211&gt; 2154

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 590

atgtttaata gaagttcttg tgtattacaa aattttcttt ttctttttttt atttttaagt 60  
 ttagtttctt gctttgcaaa aaaagaaatc tcaggcaata attttattaa ggcgcatcca 120  
 aaagagtttg attttaaataa tttaaattgg ttatggaatt ttgattatac aaaaaaaaaat 180  
 tttgataagc attttaacat agatccaagt tcttacaat atgttgctta tttattttaa 240  
 aaaaatggat ttgaagagaa atttgtagag tatatgaaaa aggccatagc taatggagat 300  
 agcattgcat ccaggtttgc tgggattaag cttattgaat attttaactc agcaaaagag 360  
 tattttgcat ctgaattgat tggagagaag ctttataaaa aatacgaaaa taataaattt 420  
 attatactgg ggtactttta aagtcctttt tggcaaaaaga aaaacgataa ggcacttagt 480  
 cttttaaata agcttgataa gatgaaattt tctgattatc aggaaaaatga aaatatttta 540  
 ttaaaagcag ttctttacct taatctttct aatgtaagt agtcaaaaat ttattttaat 600  
 gagctttttg agaacttacc tgcaaattat ttacatgtaa gagcttatga ttattttatt 660  
 attgaaaata agtctaggta ttttggtgca aattttttta atcttgtag atttaagtat 720  
 gaagtggcaa atggcaattt taatggtgca ataaatatat taaataaaaa tggtttaaat 780  
 gattattatg acaataacat tgtattaagt gatgtttata aggcttttat tagttctggc 840  
 aaagtttcaa atgctttaac attttttagt aaaataaaga gcaaataata aaattattat 900  
 ttaggtattc taaaccttag agagaaaaat aatttaggac ttcttctttt aaaagaatat 960  
 cttgaagggt tagatcttaa caatgagatt aacaggcttg atttgcttaa tactgctttt 1020  
 agcaatttaa tttttactaa gagcgcaagg gattattttg ccgaaagttt acccaagttt 1080  
 tataccgagg gcgataaaaa aaattctact tttattaaga ttttagaaga gtatattttg 1140  
 gaatcaattc agcttgaaga ctatggcaat ctttataagc tttattctaa tgctcaaaaa 1200  
 gttattttta attctgtttt gtctaagctt gcttttatta atgcaaggct tatatatcat 1260  
 aaattaatta aacctaacgt aagcggagaa tacaagagtc ttttgcattc tgctgttaat 1320  
 tatgataaat ggtcttattc ttcatttatg agtaggtact tattagatca aaatattgat 1380  
 gaatttttta caggtgggtc tgatattaag tatgagcaat ccgattatga gatttttttg 1440  
 gaagggtttt taaaattcaa tctttgtaat tatgttagag ggtttatttc tgaggatttt 1500  
 aggaatggat ataaattttc acttgatttt tatcgaaaag tatacgatga acttttaaag 1560  
 agtgaaaatt attacgatgc aactcttggtg attaattatc ttgtaaatca agatgaatct 1620  
 gctttaatgg agaatgacta taaaagactt tatccttatt tgtatggatc tttgatagaa 1680  
 tattgggcta aaaggagagg gcttgaagct agtggtgtat tttctttaat aaaagcagag 1740  
 agtagctttg aaaaaatgc tgtctcaaaa ccgggtgctg ttggccttat gcaggttatg 1800  
 ccatcaacag caaatgatat ttctaagaa ctttaagtatt ttaactatga tttaaagatt 1860  
 ccaaaagata atataataat tggaacatat tatttaaaaa aaagaatatc tacaactggc 1920  
 agtctttata aggctcttgc gtcttataat ggggggtattg gtaatgttag aaagtgggag 1980  
 aaaagttatg gacatttgct aaaagagctt tttattgagg caattccctt tagtcaaact 2040  
 aggaattata ttaaaaaaat attagtttat tcgggtatttt atgatgcttt gtatgaaaag 2100

aagggaatag attcagtaat agttaaatt atgggcgaat tccccaaaaa ttaa 2154

<210> 591

<211> 2085

<212> DNA

<213> Homo sapiens

<400> 591

tgctttgcaa	aaaaagaaat	ctcaggcaat	aattttatta	aggcgcattc	aaaagagttt	60
gatttaaata	atttaaattg	gttatggaat	tttgattata	caaaaaaaaa	ttttgataag	120
cattttaaca	tagatccaag	ttcttacata	tatgttgctt	atttatttaa	aaaaatagga	180
tttgaagaga	aatttgtaga	gtatatgaaa	aaggccatag	ctaattggaga	tagcattgca	240
tcccagtttg	ctgggattaa	gcttattgaa	tatttttaact	cagcaaaaaga	gtatttttgc	300
tctgaattga	ttggagagaa	gctttataaa	aaatacgaaa	ataataaatt	tattatactg	360
gggtacttta	aaagtcttta	ttggcaaaaag	aaaaacgata	aggcacttag	tcttttaaat	420
aagcttgata	agatgaaatt	ttctgattat	caggaaaatg	aaaatatttt	attaaaagca	480
gttctttacc	ttaatctttc	taatgtaagt	gagtcaaaaa	tttatttttaa	tgagcttttt	540
gagaacttac	ctgcaaatta	tttacatgta	agagcttatg	attatttttat	tattgaaaat	600
aagtctaggt	attttgggtgc	aaatttttta	aatcttggtt	gatttaagta	tgaagtggca	660
aatggcaatt	ttaatgggtgc	aataaatata	ttaaataaaa	atggttttaa	tgattattat	720
gacaataaca	ttgtattaag	tgatgtttat	aaggctttta	ttagttctgg	caaagtttca	780
aatgctttta	catttttttag	taaaataaag	agcaaatata	aaaattatta	tttaggtatt	840
ctaaacctta	gagagaaaaa	taatttagga	cttcttcttt	taaaagaata	tcttgaaggt	900
ttagatctta	acaatgagat	taacaggctt	gatttgctta	atactgcttt	tagcaattta	960
atttttacta	agagcgcaag	ggattatttt	gccgaaaagt	taccacaagt	ttataccgag	1020
ggcgataaaa	aaaattctac	ttttatttaag	attttagaag	agtatatatt	ggaatcaatt	1080
cagcttgaag	actatggcaa	tctttataag	ctttattcta	atgctcaaaa	agttatttct	1140
aattctgttt	tgtctaagct	tgctttttatt	aatgcaaggc	ttatatatca	taaattaatt	1200
aaaccttaacg	taagcggaga	atacaagagt	cttttgcatt	ctgctgttaa	ttatgataaa	1260
tggtcttatt	cttcatttat	gagtaggtac	ttattagatc	aaaatattga	tgaatttttt	1320
acagggtgggt	ctgatattaa	gtatgagcaa	tccgattatg	agattttttt	ggaagggttt	1380
ttaaaattca	atctttgtta	ttatgttaga	gggttttatt	ctgaggattt	taggaatgga	1440
tataaatttt	cacttgattt	ttatcgaaaa	gtatacgatg	aactttttaa	gagtgaataa	1500
tattacgatg	caactcttgt	gattaattat	cttgtaaatc	aagatgaatc	tgctttaatg	1560
gagaatgact	ataaaagact	ttatccttat	ttgtatggat	ctttgataga	atattgggct	1620
aaaaggagag	ggcttgaagc	tagtggttga	ttttctttta	taaaagcaga	gagtagcttt	1680
gaaaaaaatg	ctgtctcaaa	accgggtgct	gttggcctta	tgcaggttat	gccatcaaca	1740
gcaaatgata	tttctaaga	acttaagtat	tttaactatg	atttaaagat	tccaaaagat	1800
acataataaa	ttggaacata	ttattttaaaa	aaaagaatat	ctacaactgg	cagtctttat	1860
aaggctcttg	cgtcttataa	tgggggtatt	ggtaatgtta	gaaagtggga	gaaaagttat	1920
ggacattttg	caaaagagct	ttttattgag	gcaattccct	ttagtcaaac	taggaattat	1980
attaaaaaaa	tattagttta	ttcgggtatt	tatgatgctt	tgtatgaaaa	gaagggaata	2040
gattcagtaa	tagttaaaat	tatgggcgaa	ttccccaaaa	attaa		2085

<210> 592

<211> 912

<212> DNA

<213> Homo sapiens

<400> 592

taaaaggaga	atattttttat	gagaaaaagt	ttgtttttat	atgcattatt	aatgggagga	60
ttgatgtctt	gtaatctaga	ttccaaatta	tctagtaaca	aagaacaaaa	aaataacaat	120
aatgtaaaag	aagtttcgga	tagtggttcaa	gaagatggtc	ttaatgattt	atataataat	180
caagaaaagc	aaaaaagctt	tactaaaaat	tttgggagaac	ggaaatatga	ggattttaatt	240
aatcctatag	agcctataat	accttcagaa	tcaccaaaga	ataaggctaa	tataccaat	300
atttcaattg	gcctatactga	aaaaaaagag	acaaaaaagg	agaatttaat	cccttctact	360
aatgaagaaa	aggaagctga	tgcagcaatt	aaatattttag	aagaaaaat	tcttaaaaac	420
tctaaatttt	ctgaattaat	tagagaagta	cgtgtaatta	aagatgaata	tgctttaata	480

```

aaagctgatt tgtatgatgt aattggaaaag attaacaata aaaaaacatc attaatggag 540
aatcctaaga acaatagaga taagataaat aaattaacac aattggtgca aaataattta 600
aagatagata gtgaacttga gcagcttata aatatgattg atatggcaga aaatgaaata 660
agctctgcgg ctttcttttt tgacaacgct cagaaaaggt taaaagaaaag cattattaaa 720
agattagaga gtaaaaaataa tagatcttat gcattaaaaat tgtctagaca ggctttaagt 780
gacgcaagaa gtgctttaag taatttagaa tcttttgcct ctaaaagaat tgaaccaatg 840
gtgagaaaag aagaaataaa agagcttatt aaacatgcaa aaactgtttt agaaagtctc 900
aataaaaaat aa 912

```

<210> 593

<211> 841

<212> DNA

<213> Homo sapiens

<400> 593

```

ttgtaatcta gattccaaat tatctagtaa caaagaacaa aaaaaataca ataatgtaaa 60
agaagtttct gatagtgttc aagaagatgg tcttaatgat ttatataata atcaagaaaa 120
gcaaaaaagc tttactaaaa attttggaga acggaaatat gaggatttaa ttaatcctat 180
agagcctata ataccttcag aatcaccaaa gaataaggct aatataccaa atatttcaat 240
tgcgcatact gaaaaaaaaag agacaaaaaa ggagaattta atcccttcta ctaatgaaga 300
aaaggaagct gatgcagcaa ttaaatattt agaagaaaat attcttaaaa actctaaatt 360
ttctgaatta attagagaag tacgtgtaat taaagatgaa tatgctttta taaaagctga 420
tttgatgat gtaattggaa agattaacaa taaaaaaaca tcattaatgg agaatcctaa 480
gaacaataga gataagataa ataaattaac acaattgttg caaaataaatt taaagataga 540
tagtgaactt gagcagctta taaatatgat tgatatggca gaaaatgaaa taagctctgc 600
ggctttcttt ttgacaacg ctcagaaaag gttaaaaagaa agcattatta aaagattaga 660
gagtaaaaaat aatagatctt atgcattaaa attgtctaga caggctttta gtgacgcaag 720
aagtgtctta agtaatttag aatcttttgc ctctaaaaga attgaaccaa tggtgagaaa 780
ggaagaaata aaagagctta ttaaacatgc aaaaactggt ttagaaagtc tcaataaaaa 840
a 841

```

<210> 594

<211> 302

<212> PRT

<213> Homo sapiens

<400> 594

```

Lys Glu Asn Ile Phe Met Arg Lys Ser Leu Phe Leu Tyr Ala Leu Leu
  1             5             10             15

```

```

Met Gly Gly Leu Met Ser Cys Asn Leu Asp Ser Lys Leu Ser Ser Asn
      20             25             30

```

```

Lys Glu Gln Lys Asn Asn Asn Val Lys Glu Val Ser Asp Ser Val
      35             40             45

```

```

Gln Glu Asp Gly Leu Asn Asp Leu Tyr Asn Asn Gln Glu Lys Gln Lys
      50             55             60

```

```

Ser Phe Thr Lys Asn Phe Gly Glu Arg Lys Tyr Glu Asp Leu Ile Asn
      65             70             75             80

```

```

Pro Ile Glu Pro Ile Ile Pro Ser Glu Ser Pro Lys Asn Lys Ala Asn
      85             90             95

```

```

Ile Pro Asn Ile Ser Ile Ala His Thr Glu Lys Lys Glu Thr Lys Lys
      100             105             110

```

Glu Asn Leu Ile Pro Ser Thr Asn Glu Glu Lys Glu Ala Asp Ala Ala  
 115 120 125

Ile Lys Tyr Leu Glu Glu Asn Ile Leu Lys Asn Ser Lys Phe Ser Glu  
 130 135 140

Leu Ile Arg Glu Val Arg Val Ile Lys Asp Glu Tyr Ala Leu Ile Lys  
 145 150 155 160

Ala Asp Leu Tyr Asp Val Ile Gly Lys Ile Asn Asn Lys Lys Thr Ser  
 165 170 175

Leu Met Glu Asn Pro Lys Asn Asn Arg Asp Lys Ile Asn Lys Leu Thr  
 180 185 190

Gln Leu Leu Gln Asn Asn Leu Lys Ile Asp Ser Glu Leu Glu Gln Leu  
 195 200 205

Ile Asn Met Ile Asp Met Ala Glu Asn Glu Ile Ser Ser Ala Ala Phe  
 210 215 220

Phe Phe Asp Asn Ala Gln Lys Arg Leu Lys Glu Ser Ile Ile Lys Arg  
 225 230 235 240

Leu Glu Ser Lys Asn Asn Arg Ser Tyr Ala Leu Lys Leu Ser Arg Gln  
 245 250 255

Ala Leu Ser Asp Ala Arg Ser Ala Leu Ser Asn Leu Glu Ser Phe Ala  
 260 265 270

Ser Lys Arg Ile Glu Pro Met Val Arg Lys Glu Glu Ile Lys Glu Leu  
 275 280 285

Ile Lys His Ala Lys Thr Val Leu Glu Ser Leu Asn Lys Lys  
 290 295 300

<210> 595

<211> 280

<212> PRT

<213> Homo sapiens

<400> 595

Cys Asn Leu Asp Ser Lys Leu Ser Ser Asn Lys Glu Gln Lys Asn Asn  
 1 5 10 15

Asn Asn Val Lys Glu Val Ser Asp Ser Val Gln Glu Asp Gly Leu Asn  
 20 25 30

Asp Leu Tyr Asn Asn Gln Glu Lys Gln Lys Ser Phe Thr Lys Asn Phe  
 35 40 45

Gly Glu Arg Lys Tyr Glu Asp Leu Ile Asn Pro Ile Glu Pro Ile Ile  
 50 55 60

Pro Ser Glu Ser Pro Lys Asn Lys Ala Asn Ile Pro Asn Ile Ser Ile  
 65 70 75 80

Ala His Thr Glu Lys Lys Glu Thr Lys Lys Glu Asn Leu Ile Pro Ser

85										90					95				
Thr	Asn	Glu	Glu	Lys	Glu	Ala	Asp	Ala	Ala	Ile	Lys	Tyr	Leu	Glu	Glu				
		100						105					110						
Asn	Ile	Leu	Lys	Asn	Ser	Lys	Phe	Ser	Glu	Leu	Ile	Arg	Glu	Val	Arg				
		115					120					125							
Val	Ile	Lys	Asp	Glu	Tyr	Ala	Leu	Ile	Lys	Ala	Asp	Leu	Tyr	Asp	Val				
		130				135					140								
Ile	Gly	Lys	Ile	Asn	Asn	Lys	Lys	Thr	Ser	Leu	Met	Glu	Asn	Pro	Lys				
		145			150					155					160				
Asn	Asn	Arg	Asp	Lys	Ile	Asn	Lys	Leu	Thr	Gln	Leu	Leu	Gln	Asn	Asn				
			165						170						175				
Leu	Lys	Ile	Asp	Ser	Glu	Leu	Glu	Gln	Leu	Ile	Asn	Met	Ile	Asp	Met				
			180					185						190					
Ala	Glu	Asn	Glu	Ile	Ser	Ser	Ala	Ala	Phe	Phe	Phe	Asp	Asn	Ala	Gln				
		195					200					205							
Lys	Arg	Leu	Lys	Glu	Ser	Ile	Ile	Lys	Arg	Leu	Glu	Ser	Lys	Asn	Asn				
		210				215					220								
Arg	Ser	Tyr	Ala	Leu	Lys	Leu	Ser	Arg	Gln	Ala	Leu	Ser	Asp	Ala	Arg				
		225			230					235					240				
Ser	Ala	Leu	Ser	Asn	Leu	Glu	Ser	Phe	Ala	Ser	Lys	Arg	Ile	Glu	Pro				
			245					250						255					
Met	Val	Arg	Lys	Glu	Glu	Ile	Lys	Glu	Leu	Ile	Lys	His	Ala	Lys	Thr				
			260					265					270						
Val	Leu	Glu	Ser	Leu	Asn	Lys	Lys												
		275				280													

&lt;210&gt; 596

&lt;211&gt; 714

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 596

taaaggagtt	tacaaatgag	taaactaata	ttggcaatat	ctatactgct	aataatttca	60
tgtaaatggt	atgtagacaa	taccattgat	gaagcaactg	tagaaagtaa	atcagcacta	120
acatctattg	atcaagtatt	agatgagata	agtgaagcca	caggcctaag	ttcggaaaaa	180
atcacaaaat	taactccgga	agagctagaa	aatttagcaa	aggaagctca	agatgactct	240
gaaaaatcca	aaaaagaaat	tgaagatcaa	aaaaatacca	aggaaagtaa	aaacatagaa	300
gtaaaggata	ctcctcgctt	aatcaaattg	ataaagaatt	catcagaaaa	aattgattcg	360
gtttttcaaa	cactaattaa	tatagggttat	aatgctacct	atgcagccaa	aagtaatttg	420
aagaatggac	taaagatggt	gaaattactg	gatgagttgc	taaaaatata	ggtaagttagc	480
aatggtgata	aaagtaccca	aaaatacaat	gaacttaaaa	ccgttgtaaa	taagttaa	540
gctgaaaatt	cggtaacggt	ttctttttaa	gaacattcaa	acagtaaaat	tgaaactaaa	600
aaatgtattc	aaactcttat	gaaaaatgta	gaaacatact	ttgaagggtg	atgcagcgaa	660
cttaaaaaaca	aaaatgatgg	tgagtacgaa	aaaacattga	caactttaag	ctaa	714

&lt;210&gt; 597



<211> 634  
 <212> DNA  
 <213> Homo sapiens

<400> 597  
 atgtaaattgg tatgtagaca ataccattga tgaagcaact gtagaaagta aatcagcact 60  
 aacatctatt gatcaagtat tagatgagat aagtgaagcc acaggcctaa gttcggaaaa 120  
 aatcacaaaa ttaactccgg aagagctaga aaatttagca aaggaagctc aagatgactc 180  
 tgaaaaatcc aaaaaagaaa ttgaagatca aaaaaatacc aaggaaagta aaaacataga 240  
 agtaaaggat actcctcgct taatcaaatt gataaagaat tcatcagaaa aaattgattc 300  
 ggtttttcaa acactaatta atataggtta taatgctacc tatgcagcca aaagtaattt 360  
 gaagaatgga ctaaagatgg tgaaattact ggatgagttg ctaaaaatat cggtaagtag 420  
 caatgggtgat aaaagtaccc aaaaatacaa tgaacttaaa accgttgtaa ataagtttaa 480  
 tgctgaaaat tcggtgaagcg tttcttttaa agaacattca aacagtaaaa ttgaaactaa 540  
 aaaatgtatt caaactctta tgaaaaatgt agaaacatac tttgaagggtg tatgcagcga 600  
 acttaaaaaac aaaaatgatg gtgagtacga aaaa 634

<210> 598  
 <211> 236  
 <212> PRT  
 <213> Homo sapiens

<400> 598  
 Arg Ser Leu Gln Met Ser Lys Leu Ile Leu Ala Ile Ser Ile Leu Leu  
 1 5 10 15  
 Ile Ile Ser Cys Lys Trp Tyr Val Asp Asn Thr Ile Asp Glu Ala Thr  
 20 25 30  
 Val Glu Ser Lys Ser Ala Leu Thr Ser Ile Asp Gln Val Leu Asp Glu  
 35 40 45  
 Ile Ser Glu Ala Thr Gly Leu Ser Ser Glu Lys Ile Thr Lys Leu Thr  
 50 55 60  
 Pro Glu Glu Leu Glu Asn Leu Ala Lys Glu Ala Gln Asp Asp Ser Glu  
 65 70 75 80  
 Lys Ser Lys Lys Glu Ile Glu Asp Gln Lys Asn Thr Lys Glu Ser Lys  
 85 90 95  
 Asn Ile Glu Val Lys Asp Thr Pro Arg Leu Ile Lys Leu Ile Lys Asn  
 100 105 110  
 Ser Ser Glu Lys Ile Asp Ser Val Phe Gln Thr Leu Ile Asn Ile Gly  
 115 120 125  
 Tyr Asn Ala Thr Tyr Ala Ala Lys Ser Asn Leu Lys Asn Gly Leu Lys  
 130 135 140  
 Met Val Lys Leu Leu Asp Glu Leu Leu Lys Ile Ser Val Ser Ser Asn  
 145 150 155 160  
 Gly Asp Lys Ser Thr Gln Lys Tyr Asn Glu Leu Lys Thr Val Val Asn  
 165 170 175  
 Lys Phe Asn Ala Glu Asn Ser Val Ser Val Ser Phe Lys Glu His Ser  
 180 185 190

Asn Ser Lys Ile Glu Thr Lys Lys Cys Ile Gln Thr Leu Met Lys Asn  
 195 200 205

Val Glu Thr Tyr Phe Glu Gly Val Cys Ser Glu Leu Lys Asn Lys Asn  
 210 215 220

Asp Gly Glu Tyr Glu Lys Thr Leu Thr Thr Leu Ser  
 225 230 235

<210> 599

<211> 211

<212> PRT

<213> Homo sapiens

<400> 599

Cys Lys Trp Tyr Val Asp Asn Thr Ile Asp Glu Ala Thr Val Glu Ser  
 1 5 10 15

Lys Ser Ala Leu Thr Ser Ile Asp Gln Val Leu Asp Glu Ile Ser Glu  
 20 25 30

Ala Thr Gly Leu Ser Ser Glu Lys Ile Thr Lys Leu Thr Pro Glu Glu  
 35 40 45

Leu Glu Asn Leu Ala Lys Glu Ala Gln Asp Asp Ser Glu Lys Ser Lys  
 50 55 60

Lys Glu Ile Glu Asp Gln Lys Asn Thr Lys Glu Ser Lys Asn Ile Glu  
 65 70 75 80

Val Lys Asp Thr Pro Arg Leu Ile Lys Leu Ile Lys Asn Ser Ser Glu  
 85 90 95

Lys Ile Asp Ser Val Phe Gln Thr Leu Ile Asn Ile Gly Tyr Asn Ala  
 100 105 110

Thr Tyr Ala Ala Lys Ser Asn Leu Lys Asn Gly Leu Lys Met Val Lys  
 115 120 125

Leu Leu Asp Glu Leu Leu Lys Ile Ser Val Ser Ser Asn Gly Asp Lys  
 130 135 140

Ser Thr Gln Lys Tyr Asn Glu Leu Lys Thr Val Val Asn Lys Phe Asn  
 145 150 155 160

Ala Glu Asn Ser Val Ser Val Ser Phe Lys Glu His Ser Asn Ser Lys  
 165 170 175

Ile Glu Thr Lys Lys Cys Ile Gln Thr Leu Met Lys Asn Val Glu Thr  
 180 185 190

Tyr Phe Glu Gly Val Cys Ser Glu Leu Lys Asn Lys Asn Asp Gly Glu  
 195 200 205

Tyr Glu Lys  
 210

<210> 600  
 <211> 384  
 <212> DNA  
 <213> Homo sapiens

<400> 600  
 tgaatctcta aagatttttag caggggagaa aatatgaaaa aaagtttttt atcaatatac 60  
 atgttaattt caataagttt attatcatgt gatgttagta gattaaatca gagaaatatt 120  
 aatgagctta aaatttttgt tgaaaaggcc aagtattatt ctataaaatt agacgctatt 180  
 tataacgaat gtacaggagc atataatgat attatgactt attcggaagg tacattttct 240  
 gatcaaagta aggtttaatca agctatatct atatttataa aagacaataa aattgttaat 300  
 aagtttaagg agcttgaaaa gattatagaa gaatacaaac ctatgttttt aagtaaatta 360  
 attgatgatt ttgcgggata cggt 384

<210> 601  
 <211> 286  
 <212> DNA  
 <213> Homo sapiens

<400> 601  
 atgtgatgtt agtagattaa atcagagaaa tattaatgag cttaaaaattt ttgttgaaaa 60  
 ggccaagtat tattctataa aattagacgc tatttataac gaatgtacag gagcatataa 120  
 tgatattatg acttattcgg aaggtacatt ttctgatcaa agtaagggtta atcaagctat 180  
 atctatattt aaaaaagaca ataaaattgt taataagttt aaggagcttg aaaagattat 240  
 agaagaatac aaacctatgt ttttaagtaa attaattgat gatttt 286

<210> 602  
 <211> 127  
 <212> PRT  
 <213> Homo sapiens

<400> 602  
 Ile Ser Lys Asp Phe Ser Arg Gly Glu Asn Met Lys Lys Ser Phe Leu  
 1 5 10 15  
 Ser Ile Tyr Met Leu Ile Ser Ile Ser Leu Leu Ser Cys Asp Val Ser  
 20 25 30  
 Arg Leu Asn Gln Arg Asn Ile Asn Glu Leu Lys Ile Phe Val Glu Lys  
 35 40 45  
 Ala Lys Tyr Tyr Ser Ile Lys Leu Asp Ala Ile Tyr Asn Glu Cys Thr  
 50 55 60  
 Gly Ala Tyr Asn Asp Ile Met Thr Tyr Ser Glu Gly Thr Phe Ser Asp  
 65 70 75 80  
 Gln Ser Lys Val Asn Gln Ala Ile Ser Ile Phe Lys Lys Asp Asn Lys  
 85 90 95  
 Ile Val Asn Lys Phe Lys Glu Leu Glu Lys Ile Ile Glu Glu Tyr Lys  
 100 105 110  
 Pro Met Phe Leu Ser Lys Leu Ile Asp Asp Phe Ala Gly Ser Val  
 115 120 125

<210> 603  
 <211> 95

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 603

Cys Asp Val Ser Arg Leu Asn Gln Arg Asn Ile Asn Glu Leu Lys Ile  
 1 5 10 15

Phe Val Glu Lys Ala Lys Tyr Tyr Ser Ile Lys Leu Asp Ala Ile Tyr  
 20 25 30

Asn Glu Cys Thr Gly Ala Tyr Asn Asp Ile Met Thr Tyr Ser Glu Gly  
 35 40 45

Thr Phe Ser Asp Gln Ser Lys Val Asn Gln Ala Ile Ser Ile Phe Lys  
 50 55 60

Lys Asp Asn Lys Ile Val Asn Lys Phe Lys Glu Leu Glu Lys Ile Ile  
 65 70 75 80

Glu Glu Tyr Lys Pro Met Phe Leu Ser Lys Leu Ile Asp Asp Phe  
 85 90 95

&lt;210&gt; 604

&lt;211&gt; 783

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 604

taaatacaga gccattcaag gagagtattt atgaaatact atatatgtgt gtgtgttttt 60  
 ttgcttttga atgcttgcaa ttcagatttt agcactaatc aagaagatat taaatatcca 120  
 tctgataaag agaaatcaaa atccaacatg gaagcaagct ctaaagaaga agatccaaat 180  
 aaaaaaataa aaaatacact gcttaatgat ttaataaatt tgatagaaat agctaattgag 240  
 cataaagaaa aatatgaaaa aagaatgcaa gaagaacctt cagatcaata cggaatattg 300  
 gctttccagg aattagactt gtccgttggg aaaatatctg aagacacccc gcaatctaaa 360  
 aaatttagaa aaaacaccta ttctccctta agcgctattg atgtcaataa attaaaagat 420  
 ctttcagaga ttataagaaa ttcggggcaa atacaagggt tatttaatat tttcaacaga 480  
 ttcgagggca tttttgacga ctactttaat cacgtatatt ctaaaaaaga tatcctaggg 540  
 ggactagaaa ttttgattt agataaacta aaaaattcgt ttgaaaaatt actatctata 600  
 aaagaaactt tctcaaaaat gctaaatcaa cttttattag attataaaaa tgataaagat 660  
 catatacgaa cagagacaaa taaacttaaa tctcatacaa ctgcactttt cgaacaactt 720  
 gataaaaaag aagacgaagc atatgaacct aaaaatcaga tatttttcaat aagtaacctt 780  
 taa 783

&lt;210&gt; 605

&lt;211&gt; 685

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 605

ttgcaattca gatttttagca ctaatcaaga agatattaaa tatccatctg ataaagagaa 60  
 atcaaaatcc aacatggaag caagctctaa agaagaagat ccaaataaaa aaataaaaaa 120  
 tacactgctt aatgatttaa taaatttgat agaaatagct aatgagcata aagaaaaata 180  
 tgaaaaaaga atgcaagaag aaccttcaga tcaatacgga atattggctt tccaggaatt 240  
 agacttgctc gttggaaaaa tatctgaaga caccgcaa tctaaaaaat ttagaaaaaa 300  
 cacctattct cccttaagcg ctattgatgt caataaatta aaagatcttt cagagattat 360  
 aagaaattcg ggccaaatac aagggtttatt taatattttc aacagattcg gaggcatttt 420  
 tgacgactca cttaatcacg tatattctaa aaaagatatc ctagggggac tagaaatttt 480  
 ggatttagat aaactaaaaa attcgtttga aaaattacta tctataaaag aaacttttct 540

aaaaatgcta aatcaacttt tattagatta taaaaatgat aaagatcata tacgaacaga 600  
 gacaaataaa cttaaactct atacaactgc acttttcgaa caacttgata aaaaagaaga 660  
 cgaagcatat gaacctaaaa atcag 685

<210> 606

<211> 259

<212> PRT

<213> Homo sapiens

<400> 606

Ile Gln Ser His Ser Arg Arg Val Phe Met Lys Tyr Tyr Ile Cys Val  
 1 5 10 15

Cys Val Phe Leu Leu Leu Asn Ala Cys Asn Ser Asp Phe Ser Thr Asn  
 20 25 30

Gln Glu Asp Ile Lys Tyr Pro Ser Asp Lys Glu Lys Ser Lys Ser Asn  
 35 40 45

Met Glu Ala Ser Ser Lys Glu Glu Asp Pro Asn Lys Lys Ile Lys Asn  
 50 55 60

Thr Leu Leu Asn Asp Leu Ile Asn Leu Ile Glu Ile Ala Asn Glu His  
 65 70 75 80

Lys Glu Lys Tyr Glu Lys Arg Met Gln Glu Glu Pro Ser Asp Gln Tyr  
 85 90 95

Gly Ile Leu Ala Phe Gln Glu Leu Asp Leu Ser Val Gly Lys Ile Ser  
 100 105 110

Glu Asp Thr Pro Gln Ser Lys Lys Phe Arg Lys Asn Thr Tyr Ser Pro  
 115 120 125

Leu Ser Ala Ile Asp Val Asn Lys Leu Lys Asp Leu Ser Glu Ile Ile  
 130 135 140

Arg Asn Ser Gly Gln Ile Gln Gly Leu Phe Asn Ile Phe Asn Arg Phe  
 145 150 155 160

Gly Gly Ile Phe Asp Asp Ser Leu Asn His Val Tyr Ser Lys Lys Asp  
 165 170 175

Ile Leu Gly Gly Leu Glu Ile Leu Asp Leu Asp Lys Leu Lys Asn Ser  
 180 185 190

Phe Glu Lys Leu Leu Ser Ile Lys Glu Thr Phe Ser Lys Met Leu Asn  
 195 200 205

Gln Leu Leu Leu Asp Tyr Lys Asn Asp Lys Asp His Ile Arg Thr Glu  
 210 215 220

Thr Asn Lys Leu Lys Ser His Thr Thr Ala Leu Phe Glu Gln Leu Asp  
 225 230 235 240

Lys Lys Glu Asp Glu Ala Tyr Glu Pro Lys Asn Gln Ile Phe Ser Ile  
 245 250 255

Ser Asn Leu

<210> 607

<211> 228

<212> PRT

<213> Homo sapiens

<400> 607

Cys Asn Ser Asp Phe Ser Thr Asn Gln Glu Asp Ile Lys Tyr Pro Ser  
1 5 10 15

Asp Lys Glu Lys Ser Lys Ser Asn Met Glu Ala Ser Ser Lys Glu Glu  
20 25 30

Asp Pro Asn Lys Lys Ile Lys Asn Thr Leu Leu Asn Asp Leu Ile Asn  
35 40 45

Leu Ile Glu Ile Ala Asn Glu His Lys Glu Lys Tyr Glu Lys Arg Met  
50 55 60

Gln Glu Glu Pro Ser Asp Gln Tyr Gly Ile Leu Ala Phe Gln Glu Leu  
65 70 75 80

Asp Leu Ser Val Gly Lys Ile Ser Glu Asp Thr Pro Gln Ser Lys Lys  
85 90 95

Phe Arg Lys Asn Thr Tyr Ser Pro Leu Ser Ala Ile Asp Val Asn Lys  
100 105 110

Leu Lys Asp Leu Ser Glu Ile Ile Arg Asn Ser Gly Gln Ile Gln Gly  
115 120 125

Leu Phe Asn Ile Phe Asn Arg Phe Gly Gly Ile Phe Asp Asp Ser Leu  
130 135 140

Asn His Val Tyr Ser Lys Lys Asp Ile Leu Gly Gly Leu Glu Ile Leu  
145 150 155 160

Asp Leu Asp Lys Leu Lys Asn Ser Phe Glu Lys Leu Leu Ser Ile Lys  
165 170 175

Glu Thr Phe Ser Lys Met Leu Asn Gln Leu Leu Leu Asp Tyr Lys Asn  
180 185 190

Asp Lys Asp His Ile Arg Thr Glu Thr Asn Lys Leu Lys Ser His Thr  
195 200 205

Thr Ala Leu Phe Glu Gln Leu Asp Lys Lys Glu Asp Glu Ala Tyr Glu  
210 215 220

Pro Lys Asn Gln  
225

<210> 608

<211> 912

<212> DNA

<213> Homo sapiens

&lt;400&gt; 608

```

taaaggagggg tatttatgaa ataccacata attacaacta tatttgtttt tctgttttta 60
gcttgaggc cggattttta tatcgatcaa aaagacatta aataccgcc tactgaaaaa 120
tcaaggccca aaactgaaag ctctaagcaa aaagaatcaa agcctaaaac agaagaagag 180
cttaagaaaa aacaacaaga agaagagctt aagaaaaaac aacaagaaga agagcttaag 240
aaaaaacaac aagaagaaga gcttaagaaa aaacaacaag aagaagagaa ggaagaacta 300
agaaaacaac aactaaaaaa tacgctatct aatgatttaa aaaagcaa atagaatcgcc 360
tacaatttta aagaaaaata tgtaaaaagt atggaaaaag aacctgaaga ccattacggg 420
atgacgtctt ttaggggatt gaattggggg ccagggactg aagatatatc tgacaatacc 480
gaaagatcta taagatatag aagacacact tatactgttt taagccccct ggatcctcat 540
gaattaaagg aattcgcaaa tattattcaa gatataaata aactagcatc agtagcaagt 600
atatttaatt ctttttagcgc tattggagga gctcttgaca tagtaagtga tcacctatat 660
ttcaaaaaag acaatctaga caaactagat attgcagatt tagaaatact taaaaattca 720
tttgaacaaa tattatatat aaaaggaagt gttgcaggaa aagcaaaaaa acttttatta 780
gattataaaa atctaaaaac agatattaat aagcttaaat cttattcaaa tgaactgggt 840
aatggaatta agcaacaagc tctagaagca gaaaatctag aagagcttat agtgtcaaaa 900
tataaacttt aa 912

```

&lt;210&gt; 609

&lt;211&gt; 847

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 609

```

ttgcaggccg gattttaata tcgatcaaaa agacattaaa taccgccta ctgaaaaatc 60
aaggcccaaa actgaaagct ctaagcaaaa agaatacaa cctaaaacag aagaagagct 120
taagaaaaaa caacaagaag aagagcttaa gaaaaaacia caagaagaag agcttaagaa 180
aaaacaacia gaagaagagc ttaagaaaaa acaacaagaa gaagagaagg aagaactaag 240
aaaacaacia ctaaaaaata cgctatctaa tgatttaaaa aagcaaatag aatcggccta 300
caatttttaa gaaaaatatg taaaaagtat ggaaaaagaa cctgaagacc attacgggat 360
gacgtctttt aggggattga attggggggc agggactgaa gatatatctg acaataccga 420
aagatctata agatatagaa gacacactta tactgtttta agccccctgg atcctcatga 480
attaaggaa ttcgcaata ttattcaaga tataataaaa ctagcatcag tagcaagtat 540
atttaattct tttagcgcta ttggaggagc tcttgacata gtaagtgatc acctatattt 600
caaaaaagac aatctagaca aactagatat tgcagattta gaaatactta aaaattcatt 660
tgaacaaata ttatatataa aagggaagtgt tgcaggaaaa gcaaaaaaac ttttattaga 720
ttataaaaat ctaaaaacag atattaataa gcttaaatct tattcaaatg aactgggtta 780
tggaattaag caacaagctc tagaagcaga aaatctagaa gagcttatag tgtcaaaaata 840
taaactt 847

```

&lt;210&gt; 610

&lt;211&gt; 302

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 610

```

Arg Arg Val Phe Met Lys Tyr His Ile Ile Thr Thr Ile Phe Val Phe
 1             5             10             15

Leu Phe Leu Ala Cys Arg Pro Asp Phe Asn Ile Asp Gln Lys Asp Ile
      20             25             30

Lys Tyr Pro Pro Thr Glu Lys Ser Arg Pro Lys Thr Glu Ser Ser Lys
      35             40             45

Gln Lys Glu Ser Lys Pro Lys Thr Glu Glu Glu Leu Lys Lys Lys Gln
      50             55             60

```

Gln Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu Leu Lys Lys  
 65 70 75 80  
 Lys Gln Gln Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu Lys  
 85 90 95  
 Glu Glu Leu Arg Lys Gln Gln Leu Lys Asn Thr Leu Ser Asn Asp Leu  
 100 105 110  
 Lys Lys Gln Ile Glu Ser Ala Tyr Asn Phe Lys Glu Lys Tyr Val Lys  
 115 120 125  
 Ser Met Glu Lys Glu Pro Glu Asp His Tyr Gly Met Thr Ser Phe Arg  
 130 135 140  
 Gly Leu Asn Trp Gly Pro Gly Thr Glu Asp Ile Ser Asp Asn Thr Glu  
 145 150 155 160  
 Arg Ser Ile Arg Tyr Arg Arg His Thr Tyr Thr Val Leu Ser Pro Leu  
 165 170 175  
 Asp Pro His Glu Leu Lys Glu Phe Ala Asn Ile Ile Gln Asp Ile Asn  
 180 185 190  
 Lys Leu Ala Ser Val Ala Ser Ile Phe Asn Ser Phe Ser Ala Ile Gly  
 195 200 205  
 Gly Ala Leu Asp Ile Val Ser Asp His Leu Tyr Phe Lys Lys Asp Asn  
 210 215 220  
 Leu Asp Lys Leu Asp Ile Ala Asp Leu Glu Ile Leu Lys Asn Ser Phe  
 225 230 235 240  
 Glu Gln Ile Leu Tyr Ile Lys Gly Ser Val Ala Gly Lys Ala Lys Lys  
 245 250 255  
 Leu Leu Leu Asp Tyr Lys Asn Leu Lys Thr Asp Ile Asn Lys Leu Lys  
 260 265 270  
 Ser Tyr Ser Asn Glu Leu Val Asn Gly Ile Lys Gln Gln Ala Leu Glu  
 275 280 285  
 Ala Glu Asn Leu Glu Glu Leu Ile Val Ser Lys Tyr Lys Leu  
 290 295 300  
 <210> 611  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens  
 <400> 611  
 Cys Arg Pro Asp Phe Asn Ile Asp Gln Lys Asp Ile Lys Tyr Pro Pro  
 1 5 10 15  
 Thr Glu Lys Ser Arg Pro Lys Thr Glu Ser Ser Lys Gln Lys Glu Ser  
 20 25 30



Lys Pro Lys Thr Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu  
                   35                                  40                                  45  
 Leu Lys Lys Lys Gln Gln Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu  
           50                                  55                                  60  
 Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu Lys Glu Glu Leu Arg  
   65                                  70                                  75                                  80  
 Lys Gln Gln Leu Lys Asn Thr Leu Ser Asn Asp Leu Lys Lys Gln Ile  
                                   85                                  90                                  95  
 Glu Ser Ala Tyr Asn Phe Lys Glu Lys Tyr Val Lys Ser Met Glu Lys  
                                   100                                  105                                  110  
 Glu Pro Glu Asp His Tyr Gly Met Thr Ser Phe Arg Gly Leu Asn Trp  
                                   115                                  120                                  125  
 Gly Pro Gly Thr Glu Asp Ile Ser Asp Asn Thr Glu Arg Ser Ile Arg  
                                   130                                  135                                  140  
 Tyr Arg Arg His Thr Tyr Thr Val Leu Ser Pro Leu Asp Pro His Glu  
   145                                  150                                  155                                  160  
 Leu Lys Glu Phe Ala Asn Ile Ile Gln Asp Ile Asn Lys Leu Ala Ser  
                                   165                                  170                                  175  
 Val Ala Ser Ile Phe Asn Ser Phe Ser Ala Ile Gly Gly Ala Leu Asp  
                                   180                                  185                                  190  
 Ile Val Ser Asp His Leu Tyr Phe Lys Lys Asp Asn Leu Asp Lys Leu  
                                   195                                  200                                  205  
 Asp Ile Ala Asp Leu Glu Ile Leu Lys Asn Ser Phe Glu Gln Ile Leu  
                                   210                                  215                                  220  
 Tyr Ile Lys Gly Ser Val Ala Gly Lys Ala Lys Lys Leu Leu Leu Asp  
   225                                  230                                  235                                  240  
 Tyr Lys Asn Leu Lys Thr Asp Ile Asn Lys Leu Lys Ser Tyr Ser Asn  
                                   245                                  250                                  255  
 Glu Leu Val Asn Gly Ile Lys Gln Gln Ala Leu Glu Ala Glu Asn Leu  
                                   260                                  265                                  270  
 Glu Glu Leu Ile Val Ser Lys Tyr Lys Leu  
                                   275                                  280

&lt;210&gt; 612

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 612

taaagaaaga ttaaatcata ttcaaggaga gtatttatga aacactatat aattgtgcat 60  
 atatttgttt ttctattttt aaatgcttgt tatccagttg catctaataa aatagaatta 120  
 aaacctaataa cagaacaag cttaaataca gaagaagtcc caaatcaaga agcaaactac 180  
 aaagaagaaa agaagcaaa agaagaaggc attaataaaa aaacagaaaa cagctgctt 240

```

aatgatttaa gaaattttaat agaaacagct aaaaaagata atgataaata tacacaaaag 300
ttaaagaag aatcctcaag ccaatacga atactggctt tcaaagattt gttctggcta 360
gatggaacaa atgaacaatt gtccgcaa atccgaaagat ctaaagccta tagaaaacga 420
gcttatagca tcttaaatac tattaatgac gcttccttaa agaatttttc agaaattgta 480
atggcatcag gacaaacaca gggcatattt aataccctta actcacttgg gggtaatttt 540
gaaaagatag ttaattgttt gtatcccaaa aaagacaatt tggaaaaatt agagacttca 600
gttttaaaaa agcttaaaga ttctttggaa aatttttttag agataaaaaa aatcgcttca 660
gaaatgatgc acaagctctt attagactat caaaataata caaatcgat acaaacagat 720
aaaaatgaac ttaagtctta tgcagacaca cttttcaatc aaatgacaaa aaaacccgaa 780
gaagcactaa agctaaaaaa taccatattgc tcaatagagg acctttaa 828

```

&lt;210&gt; 613

&lt;211&gt; 706

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 613

```

ttgttatcca gttgcatcta ataaaataga attaaaacct aaaacagaaa caagcttaaa 60
tcaagaagaa gtcccaaatt aagaagcaaa ctacaaagaa gaaaaagaag caaaagaaga 120
aggcattaat aaaaaaacag aaaacacgct gcttaatgat ttaagaaatt taatagaaac 180
agctaaaaaa gataatgata aatatacaca aaagttaaaa gaagaatcct caagccaata 240
cggaatactg gctttcaaag atttgttctg gctagatgga acaaatgaac aattgtccgc 300
aaataccgaa agatctaaag cctatagaaa acgagcttat agcatcttaa atactattaa 360
tgacgcttcc ttaaagaatt ttccagaaat tgtaatggca tcaggacaaa cacagggcat 420
atttaatacc cttaactcac ttgggggttaa ttttgaaaag atagttaatt gtttgtatcc 480
caaaaaagac aatttggaag aattagagac ttcagtttta aaaaagctta aagattcttt 540
ggaaaatttt ttagagataa aaaaaatcgc ctccagaaatg atgcacaagc tcttattaga 600
ctatcaaaat aatacaaatc gtatacaaac agataaaaat gaacttaagt cttatgcaga 660
cacacttttc aatcaaatga caaaaaaacc cgaagaagca ctaag 706

```

&lt;210&gt; 614

&lt;211&gt; 274

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 614

```

Arg Lys Ile Lys Ser Tyr Ser Arg Arg Val Phe Met Lys His Tyr Ile
  1              5              10              15

```

```

Ile Val His Ile Phe Val Phe Leu Phe Leu Asn Ala Cys Tyr Pro Val
      20              25              30

```

```

Ala Ser Asn Lys Ile Glu Leu Lys Pro Lys Thr Glu Thr Ser Leu Asn
      35              40              45

```

```

Gln Glu Glu Val Pro Asn Gln Glu Ala Asn Tyr Lys Glu Glu Lys Glu
      50              55              60

```

```

Ala Lys Glu Glu Gly Ile Asn Lys Lys Thr Glu Asn Thr Leu Leu Asn
      65              70              75              80

```

```

Asp Leu Arg Asn Leu Ile Glu Thr Ala Lys Lys Asp Asn Asp Lys Tyr
      85              90              95

```

```

Thr Gln Lys Leu Lys Glu Glu Ser Ser Ser Gln Tyr Gly Ile Leu Ala
      100             105             110

```

```

Phe Lys Asp Leu Phe Trp Leu Asp Gly Thr Asn Glu Gln Leu Ser Ala

```

115                      120                      125  
 Asn Thr Glu Arg Ser Lys Ala Tyr Arg Lys Arg Ala Tyr Ser Ile Leu  
     130                      135                      140  
 Asn Thr Ile Asn Asp Ala Ser Leu Lys Asn Phe Ser Glu Ile Val Met  
     145                      150                      155                      160  
 Ala Ser Gly Gln Thr Gln Gly Ile Phe Asn Thr Leu Asn Ser Leu Gly  
                     165                      170                      175  
 Gly Asn Phe Glu Lys Ile Val Asn Cys Leu Tyr Pro Lys Lys Asp Asn  
                     180                      185                      190  
 Leu Glu Lys Leu Glu Thr Ser Val Leu Lys Lys Leu Lys Asp Ser Leu  
                     195                      200                      205  
 Glu Asn Phe Leu Glu Ile Lys Lys Ile Ala Ser Glu Met Met His Lys  
                     210                      215                      220  
 Leu Leu Leu Asp Tyr Gln Asn Asn Thr Asn Arg Ile Gln Thr Asp Lys  
     225                      230                      235                      240  
 Asn Glu Leu Lys Ser Tyr Ala Asp Thr Leu Phe Asn Gln Met Thr Lys  
                     245                      250                      255  
 Lys Pro Glu Glu Ala Leu Lys Leu Lys Asn Thr Ile Cys Ser Ile Glu  
                     260                      265                      270  
 Asp Leu

<210> 615  
 <211> 235  
 <212> PRT  
 <213> Homo sapiens

<400> 615  
 Cys Tyr Pro Val Ala Ser Asn Lys Ile Glu Leu Lys Pro Lys Thr Glu  
     1                      5                      10                      15  
 Thr Ser Leu Asn Gln Glu Glu Val Pro Asn Gln Glu Ala Asn Tyr Lys  
                     20                      25                      30  
 Glu Glu Lys Glu Ala Lys Glu Glu Gly Ile Asn Lys Lys Thr Glu Asn  
                     35                      40                      45  
 Thr Leu Leu Asn Asp Leu Arg Asn Leu Ile Glu Thr Ala Lys Lys Asp  
                     50                      55                      60  
 Asn Asp Lys Tyr Thr Gln Lys Leu Lys Glu Glu Ser Ser Ser Gln Tyr  
     65                      70                      75                      80  
 Gly Ile Leu Ala Phe Lys Asp Leu Phe Trp Leu Asp Gly Thr Asn Glu  
                     85                      90                      95  
 Gln Leu Ser Ala Asn Thr Glu Arg Ser Lys Ala Tyr Arg Lys Arg Ala  
                     100                      105                      110

Tyr Ser Ile Leu Asn Thr Ile Asn Asp Ala Ser Leu Lys Asn Phe Ser  
 115 120 125

Glu Ile Val Met Ala Ser Gly Gln Thr Gln Gly Ile Phe Asn Thr Leu  
 130 135 140

Asn Ser Leu Gly Gly Asn Phe Glu Lys Ile Val Asn Cys Leu Tyr Pro  
 145 150 155 160

Lys Lys Asp Asn Leu Glu Lys Leu Glu Thr Ser Val Leu Lys Lys Leu  
 165 170 175

Lys Asp Ser Leu Glu Asn Phe Leu Glu Ile Lys Lys Ile Ala Ser Glu  
 180 185 190

Met Met His Lys Leu Leu Leu Asp Tyr Gln Asn Asn Thr Asn Arg Ile  
 195 200 205

Gln Thr Asp Lys Asn Glu Leu Lys Ser Tyr Ala Asp Thr Leu Phe Asn  
 210 215 220

Gln Met Thr Lys Lys Pro Glu Glu Ala Leu Lys  
 225 230 235

<210> 616

<211> 696

<212> DNA

<213> Homo sapiens

<400> 616

```

taatctatac taattgagga gaatatTTTT atgaaaaaca acataatttt atgcatgtgt 60
gtttttttac ttttaaatac ctgcaccgct aaccatgaag ctgaagcgaa aataaaaaaa 120
catgttgata aaacaaaaaa cgaatatatt aatgaaataa aaaatttaac agcaacaacc 180
aaagaaatca tcgaaaaacg aaaattgcta caagctaaac cagtagatca aaaccccgta 240
gatgatacaa acaataagaa agttttcgag atagataaaa gagctttcga ttttataaat 300
agttttttta cagatgatga atttaataaa tttgtaacaa tatttcataa accaactacta 360
aaatcaccgg gaaaagtatt aaatagcata gcaattctag agctaaacat agagcaggta 420
attaatcacc tagactcaaa aaatgagacc ttaaataaag caagctcttt agatttggaa 480
aagatcaaaa attcccttga acagctgttc tctataagga attttttttc aacaatcata 540
aaaagggtct tattagatca tcaaaacaat gaaaattcta taaaaccaga tgattctaaa 600
tcaggaacct atttcgatac gatatacgat cagtttaaatg aaaaaataa agagggttaga 660
aatctgaaaa aaacatatt atcactgccg aattaa 696

```

<210> 617

<211> 592

<212> DNA

<213> Homo sapiens

<400> 617

```

ctgcaccgct aaccatgaag ctgaagcgaa aataaaaaaa catgttgata aaacaaaaaa 60
cgaatatatt aatgaaataa aaaatttaac agcaacaacc aaagaaatca tcgaaaaacg 120
aaaattgcta caagctaaac cagtagatca aaaccccgta gatgatacaa acaataagaa 180
agttttcgag atagataaaa gagctttcga ttttataaat agttttttta cagatgatga 240
atttaataaa tttgtaacaa tatttcataa accaactacta aaatcaccgg gaaaagtatt 300
aaatagcata gcaattctag agctaaacat agagcaggta attaatcacc tagactcaaa 360
aaatgagacc ttaaataaag caagctcttt agatttggaa aagatcaaaa attcccttga 420
acagctgttc tctataagga attttttttc aacaatcata aaaagggtct tattagatca 480

```

tcaaaacaat gaaaattcta taaaaccaga tgattctaaa tcaggaacct atttcgatac 540  
 gatatacgat cagtttaatg aaaaaaataa agagggttaga aatctgaaaa aa 592

<210> 618

<211> 230

<212> PRT

<213> Homo sapiens

<400> 618

Ser Ile Leu Ile Glu Glu Asn Ile Phe Met Lys Asn Asn Ile Ile Leu  
 1 5 10 15

Cys Met Cys Val Phe Leu Leu Leu Asn Ser Cys Thr Ala Asn His Glu  
 20 25 30

Ala Glu Ala Lys Ile Lys Lys His Val Asp Lys Thr Lys Asn Glu Tyr  
 35 40 45

Ile Asn Glu Ile Lys Asn Leu Ile Ala Thr Thr Lys Glu Ile Ile Glu  
 50 55 60

Lys Arg Lys Leu Leu Gln Ala Lys Pro Val Asp Gln Asn Pro Val Asp  
 65 70 75 80

Asp Thr Asn Asn Lys Lys Val Phe Glu Ile Asp Lys Arg Ala Phe Asp  
 85 90 95

Phe Ile Asn Ser Phe Leu Thr Asp Asp Glu Phe Asn Lys Phe Val Thr  
 100 105 110

Ile Phe His Lys Pro Thr Leu Lys Ser Pro Gly Lys Val Leu Asn Ser  
 115 120 125

Ile Ala Ile Leu Glu Leu Asn Ile Glu Gln Val Ile Asn His Leu Asp  
 130 135 140

Ser Lys Asn Glu Thr Leu Asn Lys Ala Ser Ser Leu Asp Leu Glu Lys  
 145 150 155 160

Ile Lys Asn Ser Leu Glu Gln Leu Phe Ser Ile Arg Asn Phe Phe Ser  
 165 170 175

Thr Ile Ile Lys Arg Val Leu Leu Asp His Gln Asn Asn Glu Asn Ser  
 180 185 190

Ile Lys Pro Asp Asp Ser Lys Ser Gly Thr Tyr Phe Asp Thr Ile Tyr  
 195 200 205

Asp Gln Phe Asn Glu Lys Asn Lys Glu Val Arg Asn Leu Lys Lys Thr  
 210 215 220

Ile Leu Ser Leu Pro Asn  
 225 230

<210> 619

<211> 197

<212> PRT

<213> Homo sapiens

&lt;400&gt; 619

Cys Thr Ala Asn His Glu Ala Glu Ala Lys Ile Lys Lys His Val Asp  
 1 5 10 15

Lys Thr Lys Asn Glu Tyr Ile Asn Glu Ile Lys Asn Leu Ile Ala Thr  
 20 25 30

Thr Lys Glu Ile Ile Glu Lys Arg Lys Leu Leu Gln Ala Lys Pro Val  
 35 40 45

Asp Gln Asn Pro Val Asp Asp Thr Asn Asn Lys Lys Val Phe Glu Ile  
 50 55 60

Asp Lys Arg Ala Phe Asp Phe Ile Asn Ser Phe Leu Thr Asp Asp Glu  
 65 70 75 80

Phe Asn Lys Phe Val Thr Ile Phe His Lys Pro Thr Leu Lys Ser Pro  
 85 90 95

Gly Lys Val Leu Asn Ser Ile Ala Ile Leu Glu Leu Asn Ile Glu Gln  
 100 105 110

Val Ile Asn His Leu Asp Ser Lys Asn Glu Thr Leu Asn Lys Ala Ser  
 115 120 125

Ser Leu Asp Leu Glu Lys Ile Lys Asn Ser Leu Glu Gln Leu Phe Ser  
 130 135 140

Ile Arg Asn Phe Phe Ser Thr Ile Ile Lys Arg Val Leu Leu Asp His  
 145 150 155 160

Gln Asn Asn Glu Asn Ser Ile Lys Pro Asp Asp Ser Lys Ser Gly Thr  
 165 170 175

Tyr Phe Asp Thr Ile Tyr Asp Gln Phe Asn Glu Lys Asn Lys Glu Val  
 180 185 190

Arg Asn Leu Lys Lys  
 195

&lt;210&gt; 620

&lt;211&gt; 588

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 620

taaaggagag tattaatgaa atgccatata attgcaacta tatttgTTTT tctattttta 60  
 gcttgCagta cagattttta tactgatcaa aaaggcatta aatacccgcc taccgaaaaa 120  
 tcaaagccca aaactgaaga ctctaagcaa aaagaattaa agcctaaaac agaaaaagaa 180  
 ctaaagaaaa aacaacaact aaaaaataaa ctacttaaatg atttaaaaaa ttcaatagaa 240  
 acagctaata agcataaaga aaagtataaa aaaagaatga aagaagaacc cgaagatcaa 300  
 tacgggggtac aggcttttcaa aggatcgaat tggggggccgg ggactgaaga tgtatctgcc 360  
 aacaccgaaa gatctataag atttagaaga catacttata ctattttaag cacgctgagt 420  
 cttcatgaat taaaggaatt ctcaaataatt gttacaaatg aaaataaaact ggtgccagta 480  
 gtagatatgt ttaatttctt tagctctatt gggacagctc ttgatataac aaccgatagc 540  
 ttatatoccca aaaagacaat ctggacaaac cagatctgtc ggatttag 588

<210> 621  
 <211> 520  
 <212> DNA  
 <213> Homo sapiens

<400> 621  
 ttgcagtaca gattttaata ctgatcaaaa aggcattaaa taccgccta ccgaaaaatc 60  
 aaagcccaaa actgaagact ctaagcaaaa agaattaaag cctaaaacag aaaaagaact 120  
 aaagaaaaaa caacaactaa aaaataaaact acttaatgat ttaaaaaatt caatagaaac 180  
 agctaataag cataaagaaa agtataaaaa aagaatgaaa gaagaaccg aagatcaata 240  
 cggggtacag gctttcaaag gatcgaattg ggggccgggg actgaagatg tatctgcaa 300  
 caccgaaga tctataagat ttagaagaca tacttatact attttaagca cgctgagtct 360  
 tcatgaatta aaggaattct caaatattgt tacaaatgaa aataaactgg tgccagtagt 420  
 agatatgttt aatttcttta gctctattgg gacagctctt gatataacaa ccgatagctt 480  
 atatcccaaa aagacaatct ggacaaacca gatctgtcgg 520

<210> 622  
 <211> 194  
 <212> PRT  
 <213> Homo sapiens

<400> 622  
 Arg Arg Val Leu Met Lys Cys His Ile Ile Ala Thr Ile Phe Val Phe  
 1 5 10 15  
 Leu Phe Leu Ala Cys Ser Thr Asp Phe Asn Thr Asp Gln Lys Gly Ile  
 20 25 30  
 Lys Tyr Pro Pro Thr Glu Lys Ser Lys Pro Lys Thr Glu Asp Ser Lys  
 35 40 45  
 Gln Lys Glu Leu Lys Pro Lys Thr Glu Lys Glu Leu Lys Lys Lys Gln  
 50 55 60  
 Gln Leu Lys Asn Lys Leu Leu Asn Asp Leu Lys Asn Ser Ile Glu Thr  
 65 70 75 80  
 Ala Asn Lys His Lys Glu Lys Tyr Lys Lys Arg Met Lys Glu Glu Pro  
 85 90 95  
 Glu Asp Gln Tyr Gly Val Gln Ala Phe Lys Gly Ser Asn Trp Gly Pro  
 100 105 110  
 Gly Thr Glu Asp Val Ser Ala Asn Thr Glu Arg Ser Ile Arg Phe Arg  
 115 120 125  
 Arg His Thr Tyr Thr Ile Leu Ser Thr Leu Ser Leu His Glu Leu Lys  
 130 135 140  
 Glu Phe Ser Asn Ile Val Thr Asn Glu Asn Lys Leu Val Pro Val Val  
 145 150 155 160  
 Asp Met Phe Asn Phe Phe Ser Ser Ile Gly Thr Ala Leu Asp Ile Thr  
 165 170 175  
 Thr Asp Ser Leu Tyr Pro Lys Lys Thr Ile Trp Thr Asn Gln Ile Cys  
 180 185 190

Arg Ile

&lt;210&gt; 623

&lt;211&gt; 173

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 623

Cys Ser Thr Asp Phe Asn Thr Asp Gln Lys Gly Ile Lys Tyr Pro Pro  
 1 5 10 15

Thr Glu Lys Ser Lys Pro Lys Thr Glu Asp Ser Lys Gln Lys Glu Leu  
 20 25 30

Lys Pro Lys Thr Glu Lys Glu Leu Lys Lys Lys Gln Gln Leu Lys Asn  
 35 40 45

Lys Leu Leu Asn Asp Leu Lys Asn Ser Ile Glu Thr Ala Asn Lys His  
 50 55 60

Lys Glu Lys Tyr Lys Lys Arg Met Lys Glu Glu Pro Glu Asp Gln Tyr  
 65 70 75 80

Gly Val Gln Ala Phe Lys Gly Ser Asn Trp Gly Pro Gly Thr Glu Asp  
 85 90 95

Val Ser Ala Asn Thr Glu Arg Ser Ile Arg Phe Arg Arg His Thr Tyr  
 100 105 110

Thr Ile Leu Ser Thr Leu Ser Leu His Glu Leu Lys Glu Phe Ser Asn  
 115 120 125

Ile Val Thr Asn Glu Asn Lys Leu Val Pro Val Val Asp Met Phe Asn  
 130 135 140

Phe Phe Ser Ser Ile Gly Thr Ala Leu Asp Ile Thr Thr Asp Ser Leu  
 145 150 155 160

Tyr Pro Lys Lys Thr Ile Trp Thr Asn Gln Ile Cys Arg  
 165 170

&lt;210&gt; 624

&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 624

taggagacaa tctttatgaa taaaaaata aaaatgttta ttatttgtgc tatttttatg 60  
 ctgataagtt cttgtaagaa tgatgtaact agtaaagatt tagaaggggc ggtgaaagat 120  
 ttagaaagtt cagaacaaaa tgtaaaaaaa acagaacaag agataaaaaa acaagttgaa 180  
 ggatttttag aaatttttaga gacaaaagat ttaaacacat tagatacaaa agaaattgaa 240  
 aaacaaattc aagaattaaa gaataagata gaaaaattag actctaaaaa aacttctatt 300  
 gaaacatatt ctgggtatga agaaaaaata aacaaaataa aagaaaaatt aaacggaaaa 360  
 ggacttgaag ataaattaaa tgaactttca gagagcttaa aaaagaaaaa agaggagaga 420  
 aaaaaagctt tacaagaggc taaaaagaaa tttgaagagt ataaaaacca agctgaatct 480  
 gcaactggag taacgcatgg ttctcaagtc caaagacaag gtggtgttgg attacaagct 540  
 tggcagtgtg ctaatagttt ggggtttaaa aatatgacta gtggtaataa tactagcgat 600



atgaccaatg aagttataac taattcgctt aaaaagattg aagaagaact taaaaatatt 660  
 ggagaaaactg tagaaggtaa aaaagaataa 690

<210> 625

<211> 616

<212> DNA

<213> Homo sapiens

<400> 625

ttgtaagaat gatgtaacta gtaaagattt agaaggggcg gtgaaagatt tagaaagtcc 60  
 agaacaaaat gtaaaaaaaaa cagaacaaga gataaaaaaaaa caagttgaag gattttttaga 120  
 aatttttagag acaaaaagatt taaacacatt agatacaaaa gaaattgaaa aacaaattca 180  
 agaattaaag aataagatag aaaaattaga ctctaaaaaa acttctattg aaacatattc 240  
 tgggtatgaa gaaaaaataa acaaaataaa agaaaaatta aacggaaaag gacttgaaga 300  
 taaattaaat gaactttcag agagcttaaa aaagaaaaaa gaggagagaa aaaaagcttt 360  
 acaagaggct aaaaagaaat ttgaagagta taaaaaccaa gctgaatctg caactggagt 420  
 aacgcattggt tctcaagtcc aaagacaagg tgggtgttga ttacaagctt ggcagtgtgc 480  
 taatagtttg gggtttaaaa atatgactag tggtaataat actagcgata tgaccaatga 540  
 agttataact aattcgctta aaaagattga aagaagaactt aaaaatattg gagaaactgt 600  
 agaaggtaaa aaagaa 616

<210> 626

<211> 228

<212> PRT

<213> Homo sapiens

<400> 626

Glu Thr Ile Phe Met Asn Lys Lys Ile Lys Met Phe Ile Ile Cys Ala  
 1 5 10 15

Ile Phe Met Leu Ile Ser Ser Cys Lys Asn Asp Val Thr Ser Lys Asp  
 20 25 30

Leu Glu Gly Ala Val Lys Asp Leu Glu Ser Ser Glu Gln Asn Val Lys  
 35 40 45

Lys Thr Glu Gln Glu Ile Lys Lys Gln Val Glu Gly Phe Leu Glu Ile  
 50 55 60

Leu Glu Thr Lys Asp Leu Asn Thr Leu Asp Thr Lys Glu Ile Glu Lys  
 65 70 75 80

Gln Ile Gln Glu Leu Lys Asn Lys Ile Glu Lys Leu Asp Ser Lys Lys  
 85 90 95

Thr Ser Ile Glu Thr Tyr Ser Gly Tyr Glu Glu Lys Ile Asn Lys Ile  
 100 105 110

Lys Glu Lys Leu Asn Gly Lys Gly Leu Glu Asp Lys Leu Asn Glu Leu  
 115 120 125

Ser Glu Ser Leu Lys Lys Lys Lys Glu Glu Arg Lys Lys Ala Leu Gln  
 130 135 140

Glu Ala Lys Lys Lys Phe Glu Glu Tyr Lys Asn Gln Ala Glu Ser Ala  
 145 150 155 160

Thr Gly Val Thr His Gly Ser Gln Val Gln Arg Gln Gly Gly Val Gly

				165					170						175				
Leu	Gln	Ala	Trp	Gln	Cys	Ala	Asn	Ser	Leu	Gly	Phe	Lys	Asn	Met	Thr				
			180					185						190					
Ser	Gly	Asn	Asn	Thr	Ser	Asp	Met	Thr	Asn	Glu	Val	Ile	Thr	Asn	Ser				
		195					200					205							
Leu	Lys	Lys	Ile	Glu	Glu	Glu	Leu	Lys	Asn	Ile	Gly	Glu	Thr	Val	Glu				
	210					215					220								
Gly	Lys	Lys	Glu																
225																			
<210>	627																		
<211>	205																		
<212>	PRT																		
<213>	Homo sapiens																		
<400>	627																		
Cys	Lys	Asn	Asp	Val	Thr	Ser	Lys	Asp	Leu	Glu	Gly	Ala	Val	Lys	Asp				
1				5					10					15					
Leu	Glu	Ser	Ser	Glu	Gln	Asn	Val	Lys	Lys	Thr	Glu	Gln	Glu	Ile	Lys				
			20					25						30					
Lys	Gln	Val	Glu	Gly	Phe	Leu	Glu	Ile	Leu	Glu	Thr	Lys	Asp	Leu	Asn				
		35					40					45							
Thr	Leu	Asp	Thr	Lys	Glu	Ile	Glu	Lys	Gln	Ile	Gln	Glu	Leu	Lys	Asn				
	50					55					60								
Lys	Ile	Glu	Lys	Leu	Asp	Ser	Lys	Lys	Thr	Ser	Ile	Glu	Thr	Tyr	Ser				
65					70					75					80				
Gly	Tyr	Glu	Glu	Lys	Ile	Asn	Lys	Ile	Lys	Glu	Lys	Leu	Asn	Gly	Lys				
				85					90					95					
Gly	Leu	Glu	Asp	Lys	Leu	Asn	Glu	Leu	Ser	Glu	Ser	Leu	Lys	Lys	Lys				
			100					105					110						
Lys	Glu	Glu	Arg	Lys	Lys	Ala	Leu	Gln	Glu	Ala	Lys	Lys	Lys	Phe	Glu				
		115					120					125							
Glu	Tyr	Lys	Asn	Gln	Ala	Glu	Ser	Ala	Thr	Gly	Val	Thr	His	Gly	Ser				
	130					135					140								
Gln	Val	Gln	Arg	Gln	Gly	Gly	Val	Gly	Leu	Gln	Ala	Trp	Gln	Cys	Ala				
145					150					155					160				
Asn	Ser	Leu	Gly	Phe	Lys	Asn	Met	Thr	Ser	Gly	Asn	Asn	Thr	Ser	Asp				
				165					170					175					
Met	Thr	Asn	Glu	Val	Ile	Thr	Asn	Ser	Leu	Lys	Lys	Ile	Glu	Glu	Glu				
		180						185			</								

<210> 628  
 <211> 3990  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc feature  
 <222> (1139)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1143)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1148)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1210)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1244)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1247)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1250)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1251)  
 <223> n equals a,t,g, or c

<400> 628  
 taagctggta acactgtaaa gacagctgag ggggcttcaa gtggtactga tgcaattgga 60  
 gaagttgtgg ataatgatgc taaggttgct gataaggcga gtgtgacggg gattgctaag 120  
 gggataaaagg agattgttga agctgctagg gggagtgaag agctgaaagt tgctgctgct 180  
 aaagaggggca atgaaaaggc agggaagttg tttgggaagg ctggtgctaa tgctcatggg 240  
 gacagtggag ctgctagcaa ggcggctggt gctgttagtg ctgttagtgg ggagcagata 300  
 ttaagtgcga ttgttaaggc tgcggatgcg gctgagcagg atggaaagaa gcctgcagat 360  
 gctacaaaatc cgattgctgc tgctattggg aataaagatg aggatgcgga ttttggtgat 420  
 gggatgaaga aggatgatca gattgctgct gctattgctt tgaggggggat ggctaaggat 480  
 ggaaagtttg ctgtgaagaa tgatgagaaa ggggaaggctg agggggctat taaggagact 540  
 gctgcaattg gagaagttgt ggataatgct ggtgctgcga aggctgctga taaggatagt 600  
 gtgaagggga ttgctaaggg gataaaggag attgttgaag ctgctggggg gagtgaaaag 660

ctgaaagctg	ctgctgctga	aggggagaat	aataaaaagg	caggggaagtt	gtttgggaaa	720
gttagtggtg	ctgctgggga	cagtgaaggct	gctagcaagg	cggctggtgc	tgtagtgct	780
gttagtggtg	agcagatatt	aagtgcgatt	gttaaggctg	ctggtgaggc	tgagcaggat	840
ggagagaagc	ctgaggatgc	taaaaatccg	attgctgctg	ctattgggaa	gggtaatggg	900
gatggtgctg	agtttgatca	ggatgagatg	aagaaggatg	atcagattgc	tgctgctatt	960
gctttgaggg	ggatggctaa	ggatggaaag	tttgctgtga	agggtaataa	tgagaaagag	1020
aaggctgagg	gggctattaa	agaagttagc	gagttgttgg	ataagctggt	aacagctgta	1080
aagacagctg	agggggcctc	aagtgggtact	gatgcaattg	gagaagttgt	ggataatgnt	1140
gcnaaggntg	ctgataaaggc	gagtgtgacg	gggattgcta	aggggataaa	ggagattggt	1200
gaagctgctn	gggggagtg	aaagctgaag	gttgctgctg	ctanagnngn	naataataaa	1260
gaggcagggg	agttgtttgg	gaaggctggt	gctgatgcta	atggggacag	tgaggctgct	1320
agcaaggcgg	ctggtgctgt	tagtgctggt	agtggggagc	agatattaag	tgctgattgt	1380
aaggctgctg	ctgctggtgc	ggctgatcag	gatggagaga	agcctgggga	tgctaaaaat	1440
ccgattgctg	ctgctattgg	gaagggtaat	gctgatgatg	gtgcggattt	tggtgatggg	1500
atgaagaagg	atgatcagat	tgctgctgct	attgctttga	gggggatggc	taaggatgga	1560
aagtttgctg	tgaagaagga	tgagaaaggg	aaggctgagg	gggctattaa	gggagctagc	1620
gagttgttgg	ataagctggt	aaaagctgta	aagacagctg	agggggcctc	aagtgggtact	1680
gctgcaattg	gagaagttgt	ggataatgct	gcgaaggctg	ctgataagga	tagtggtgacg	1740
gggattgcta	aggggataaa	ggagattggt	gaagctgcag	gggggagtg	aaagctgaaa	1800
gttgctgctg	ctaaaggggg	gaataataaa	agggcagggg	agttgtttgg	gaaggctggt	1860
gctaattgct	atggggacag	tgaggctgct	agcaaggcgg	ctggtgctgt	tagtgctggt	1920
agtgggggaa	agatattaag	tgctgattgt	aaggctgctg	gtgaggctgc	tggtgatcag	1980
gagggaaaga	agcctgagga	ggctaaaaat	ccgattgctg	ctgctattgg	ggataaagat	2040
ggggatgctg	agtttaatac	ggatgggatg	aagaaggatg	atcagattgc	tgctgctatt	2100
gctttgaggg	ggatggctaa	ggatggaaag	tttgctgtga	aggatggtgg	tgagaaagag	2160
aaggctgagg	gggctattaa	aggagttagc	gagttgttgg	ataagctggt	aaaagctgta	2220
aagacagctg	agggggcctc	aagtgggtact	gctgcaattg	gagaagttgt	ggctgatgct	2280
gctaagggtg	ctgataaaggc	gagtgtgacg	gggattgcta	aggggataaa	ggagattggt	2340
gaagctgctg	gggacagtga	ggctgctagc	aaggcagctg	gtgctgttag	tgctgttagt	2400
ggggagcaga	tattaagtgc	gattgttaag	gctgctgctg	ctggtgctgc	tgagcaggat	2460
ggagagaagc	ctgcagaggc	taaaaatccg	attgctgctg	ctattgggaa	gggtgatggg	2520
gatgcggatt	ttggtgagga	tggtgatgaag	aaggatgatc	agattgctgc	tgctattgct	2580
ttgaggggga	tggctaagga	tggaaagttt	gctgtgaaga	atgatgagaa	aggggaaggct	2640
gaggggggcta	ttaagggagc	tgctgcaatt	ggagaagttg	tggataatgc	tggtgctgct	2700
aaggctgctg	ataaggatag	tgtgaagggg	attgctaagg	ggataaagga	gattgttgaa	2760
gctgctgggg	ggagtgaaaa	gctgaaagct	gctgctgctg	aaggggagaa	taataaaaaag	2820
gcagggaagt	tggttgggaa	agttgatggt	gctgctgggg	acagtgaggg	tgctagcaag	2880
gcggctggtg	ctgttagtgc	tggttagtggg	gagcagatat	taagtgcgat	tggttaaggct	2940
gcggatgctg	ctgagcagga	tggaaagaag	cctgcagatg	ctacaaatcc	gattgctgct	3000
gctattggga	ataaagatga	ggatgcggat	tttggtgatg	ggatgaagaa	ggatgatcag	3060
attgctgctg	ctattgcttt	gagggggatg	gctaaggatg	gaaagtgttc	tgtgaagggg	3120
aataatgaga	aaggggaaggc	tgagggggct	tcaagtggta	ctgatgcaat	tggagaagtt	3180
gtggataatg	atgcgaaggc	tgctgataag	gcgagtgtga	cggggattgc	taaggggata	3240
aaggagattg	ttgaagctgc	tggggggagt	gaaaagctga	aagctgttgc	tgctgctaca	3300
agggagaata	ataaagagggc	agggaaagttg	tttgggaaag	ttgatgatgc	tcagtctggg	3360
gacagtgagg	ctgctagcaa	ggcggctggt	gctgttagtg	ctgttagtgg	ggagcagata	3420
ttaagtgcga	ttgttacggc	tgctgctgct	ggtagcagg	atggagagaa	gcctgcagag	3480
gctacaaatc	cgattgctgc	tgctattggg	aagggtaatg	aggatggtgc	ggattttggt	3540
aaggatgaga	tgaagaagga	tgatcagatt	gctgctgcta	ttgctttgag	ggggatggct	3600
aaggatggaa	agtttgctgt	gaagagtaat	gatggtgaga	aaggggaaggc	tgagggggct	3660
attaaggaag	ttagcgagtt	gttgagataag	ctggtaaaaag	ctgtaaaagac	agctgagggg	3720
gcttcaagcg	gtactgatgc	aattggagaa	gttggtggcta	atgctggtgc	tgcaaggct	3780
gctgataaag	cgagtgtgac	ggggattgct	aaggggataa	aggagattgt	tgaagctgct	3840
ggggggagta	aaaagctgaa	agctgctgct	gctgaagggg	agaataataa	aaaggcaggg	3900
aagttgtttg	ggaaggctgg	tgctggtgct	ggtgctaatag	gggacagtga	ggctgctagc	3960
aaggcggctg	gtgctgttag	tgctggttag				3990

<211> 505  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc feature  
 <222> (318)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (322)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (327)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (389)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (423)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (426)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (429)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (430)  
 <223> n equals a,t,g, or c

<400> 629  
 tgggtgaggct gagcaggatg gagagaagcc tgaggatgct aaaaatccga ttgctgctgc 60  
 tattgggaag ggtaatgggg atgggtgcgga gtttgatcag gatgagatga agaaggatga 120  
 tcagattgct gctgctattg ctttgagggg gatggctaag gatggaaagt ttgctgtgaa 180  
 gggtaataat gagaaagaga aggctgaggg ggctattaaa gaagttagcg agttgttgga 240  
 taagctggta acagctgtaa agacagctga gggggccttca agtggtactg atgcaattgg 300  
 agaagttgtg gataatgntg cnaaggntgc tgataaggcg agtgtgacgg ggattgctaa 360  
 ggggataaag gagattgttg aagctgctng ggggagtgaa aagctgaaag ttgctgctgc 420  
 tanagnngnn aataataaag aggcagggaa gttgtttggg aaggctggtg ctgatgctaa 480  
 tggggacagt gaggctgcta gcaag 505

<210> 630  
 <211> 1328  
 <212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (379)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (382)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (403)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (414)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (415)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (416)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 630

Ala Gly Asn Thr Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr Asp  
1 5 10 15

Ala Ile Gly Glu Val Val Asp Asn Asp Ala Lys Val Ala Asp Lys Ala  
20 25 30

Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala  
35 40 45

Arg Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Lys Glu Gly Asn Glu  
50 55 60

Lys Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Asn Ala His Gly Asp  
65 70 75 80

Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val Ser Gly  
85 90 95

Glu Gln Ile Leu Ser Ala Ile Val Lys Ala Ala Asp Ala Ala Glu Gln  
100 105 110

Asp Gly Lys Lys Pro Ala Asp Ala Thr Asn Pro Ile Ala Ala Ala Ile  
115 120 125

Gly Asn Lys Asp Glu Asp Ala Asp Phe Gly Asp Gly Met Lys Lys Asp

130	135	140
Asp Gln Ile Ala Ala Ala Ile Ala Leu Arg Gly Met Ala Lys Asp Gly 145 150 155 160		
Lys Phe Ala Val Lys Asn Asp Glu Lys Gly Lys Ala Glu Gly Ala Ile 165 170 175		
Lys Gly Ala Ala Ala Ile Gly Glu Val Val Asp Asn Ala Gly Ala Ala 180 185 190		
Lys Ala Ala Asp Lys Asp Ser Val Lys Gly Ile Ala Lys Gly Ile Lys 195 200 205		
Glu Ile Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys Ala Ala Ala 210 215 220		
Ala Glu Gly Glu Asn Asn Lys Lys Ala Gly Lys Leu Phe Gly Lys Val 225 230 235 240		
Asp Gly Ala Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala 245 250 255		
Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala 260 265 270		
Ala Gly Glu Ala Glu Gln Asp Gly Glu Lys Pro Glu Asp Ala Lys Asn 275 280 285		
Pro Ile Ala Ala Ala Ile Gly Lys Gly Asn Gly Asp Gly Ala Glu Phe 290 295 300		
Asp Gln Asp Glu Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala 305 310 315 320		
Leu Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Gly Asn Asn 325 330 335		
Glu Lys Glu Lys Ala Glu Gly Ala Ile Lys Glu Val Ser Glu Leu Leu 340 345 350		
Asp Lys Leu Val Thr Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly 355 360 365		
Thr Asp Ala Ile Gly Glu Val Val Asp Asn Xaa Ala Lys Xaa Ala Asp 370 375 380		
Lys Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu 385 390 395 400		
Ala Ala Xaa Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Xaa Xaa Xaa 405 410 415		
Asn Asn Lys Glu Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Asp Ala 420 425 430		
Asn Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala 435 440 445		

Val Ser Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala Ala Ala Ala  
 450 455 460  
 Gly Ala Ala Asp Gln Asp Gly Glu Lys Pro Gly Asp Ala Lys Asn Pro  
 465 470 475 480  
 Ile Ala Ala Ala Ile Gly Lys Gly Asn Ala Asp Asp Gly Ala Asp Phe  
 485 490 495  
 Gly Asp Gly Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu  
 500 505 510  
 Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Lys Asp Glu Lys  
 515 520 525  
 Gly Lys Ala Glu Gly Ala Ile Lys Gly Ala Ser Glu Leu Leu Asp Lys  
 530 535 540  
 Leu Val Lys Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr Ala  
 545 550 555 560  
 Ala Ile Gly Glu Val Val Asp Asn Ala Ala Lys Ala Ala Asp Lys Asp  
 565 570 575  
 Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala  
 580 585 590  
 Gly Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Lys Gly Glu Asn Asn  
 595 600 605  
 Lys Gly Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Asn Ala His Gly  
 610 615 620  
 Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val Ser  
 625 630 635 640  
 Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala Ala Gly Glu Ala Ala  
 645 650 655  
 Gly Asp Gln Glu Gly Lys Lys Pro Glu Glu Ala Lys Asn Pro Ile Ala  
 660 665 670  
 Ala Ala Ile Gly Asp Lys Asp Gly Asp Ala Glu Phe Asn Gln Asp Gly  
 675 680 685  
 Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu Arg Gly Met  
 690 695 700  
 Ala Lys Asp Gly Lys Phe Ala Val Lys Asp Gly Gly Glu Lys Glu Lys  
 705 710 715 720  
 Ala Glu Gly Ala Ile Lys Gly Val Ser Glu Leu Leu Asp Lys Leu Val  
 725 730 735  
 Lys Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr Ala Ala Ile  
 740 745 750



Gly Glu Val Val Ala Asp Ala Ala Lys Val Ala Asp Lys Ala Ser Val  
 755 760 765  
 Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala Gly Asp  
 770 775 780  
 Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val Ser Gly  
 785 790 795 800  
 Glu Gln Ile Leu Ser Ala Ile Val Lys Ala Ala Ala Gly Ala Ala  
 805 810 815  
 Glu Gln Asp Gly Glu Lys Pro Ala Glu Ala Lys Asn Pro Ile Ala Ala  
 820 825 830  
 Ala Ile Gly Lys Gly Asp Gly Asp Ala Asp Phe Gly Glu Asp Gly Met  
 835 840 845  
 Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu Arg Gly Met Ala  
 850 855 860  
 Lys Asp Gly Lys Phe Ala Val Lys Asn Asp Glu Lys Gly Lys Ala Glu  
 865 870 875 880  
 Gly Ala Ile Lys Gly Ala Ala Ala Ile Gly Glu Val Val Asp Asn Ala  
 885 890 895  
 Gly Ala Ala Lys Ala Ala Asp Lys Asp Ser Val Lys Gly Ile Ala Lys  
 900 905 910  
 Gly Ile Lys Glu Ile Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys  
 915 920 925  
 Ala Ala Ala Ala Glu Gly Glu Asn Asn Lys Lys Ala Gly Lys Leu Phe  
 930 935 940  
 Gly Lys Val Asp Gly Ala Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala  
 945 950 955 960  
 Ala Gly Ala Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala Ile  
 965 970 975  
 Val Lys Ala Ala Asp Ala Ala Glu Gln Asp Gly Lys Lys Pro Ala Asp  
 980 985 990  
 Ala Thr Asn Pro Ile Ala Ala Ala Ile Gly Asn Lys Asp Glu Asp Ala  
 995 1000 1005  
 Asp Phe Gly Asp Gly Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile  
 1010 1015 1020  
 Ala Leu Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Gly Asn  
 1025 1030 1035 1040  
 Asn Glu Lys Gly Lys Ala Glu Gly Ala Ser Ser Gly Thr Asp Ala Ile  
 1045 1050 1055  
 Gly Glu Val Val Asp Asn Asp Ala Lys Ala Ala Asp Lys Ala Ser Val

1060	1065	1070
Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala Gly Gly 1075 1080 1085		
Ser Glu Lys Leu Lys Ala Val Ala Ala Ala Thr Arg Glu Asn Asn Lys 1090 1095 1100		
Glu Ala Gly Lys Leu Phe Gly Lys Val Asp Asp Ala His Ala Gly Asp 105 1110 1115 1120		
Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val Ser Gly 1125 1130 1135		
Glu Gln Ile Leu Ser Ala Ile Val Thr Ala Ala Ala Ala Gly Glu Gln 1140 1145 1150		
Asp Gly Glu Lys Pro Ala Glu Ala Thr Asn Pro Ile Ala Ala Ala Ile 1155 1160 1165		
Gly Lys Gly Asn Glu Asp Gly Ala Asp Phe Gly Lys Asp Glu Met Lys 1170 1175 1180		
Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu Arg Gly Met Ala Lys 185 1190 1195 1200		
Asp Gly Lys Phe Ala Val Lys Ser Asn Asp Gly Glu Lys Gly Lys Ala 1205 1210 1215		
Glu Gly Ala Ile Lys Glu Val Ser Glu Leu Leu Asp Lys Leu Val Lys 1220 1225 1230		
Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr Asp Ala Ile Gly 1235 1240 1245		
Glu Val Val Ala Asn Ala Gly Ala Ala Lys Ala Ala Asp Lys Ala Ser 1250 1255 1260		
Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala Gly 265 1270 1275 1280		
Gly Ser Lys Lys Leu Lys Ala Ala Ala Ala Glu Gly Glu Asn Asn Lys 1285 1290 1295		
Lys Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Gly Ala Gly Ala Asn 1300 1305 1310		
Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Gly 1315 1320 1325		

&lt;210&gt; 631

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

```
<220>
<221> SITE
<222> (109)
<223> Xaa equals any of the naturally occurring L-amino acids
```

```
<220>
<221> SITE
<222> (141)
<223> Xaa equals any of the naturally occurring L-amino acids
```

```
<220>
<221> SITE
<222> (142)
<223> Xaa equals any of the naturally occurring L-amino acids
```

```

<220>
<221> SITE
<222> (143)
<223> Xaa equals any of the naturally occurring L-amino acids

```

Ile Ala Ala Ala Ile Gly Lys Gly Asn Gly Asp Gly Ala Glu Phe Asp  
20 25 30

Gln Asp Glu Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu  
35 40 45

Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Gly Asn Asn Glu  
50 55 60

Lys Glu Lys Ala Glu Gly Ala Ile Lys Glu Val Ser Glu Leu Leu Asp  
65 70 75 80

Lys Leu Val Thr Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr  
85 90 95

Asp Ala Ile Gly Glu Val Val Asp Asn Xaa Ala Lys Xaa Ala Asp Lys  
100 105 110

Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala  
115 120 125

Ala Xaa Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Xaa Xaa Xaa Asn  
130 135 140

Asn Lys Glu Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Asp Ala Asn  
 145 150 155 160

Gly Asp Ser Glu Ala Ala Ser Lys  
 165

<210> 632  
 <211> 1008  
 <212> DNA  
 <213> Homo sapiens

<400> 632  
 taaaaaggaa atataaatat tatgogatta tgtttaataa aaatTTTTat tatacctaata 60  
 ttagtatttta gttctctttt tttatttgaa agttgttctg gttttctatc taaaaaatct 120  
 atagaacagt ttgcattagc attaaaagat catcaagaaa ataaaaatac tactaataact 180  
 tcagtagata aaaatagtaa ggaaattgaa tctcctaaag acgttacatc atcaaataaa 240  
 aaaactttatg atccaatctt acaagtaggt tctaatacaac atatgtcaga tgatcctggg 300  
 gctaataata aagaatccct accaaattca agtcagcaa taatacaaaa tgactcgc 360  
 gctcaaaata atgtaaagat ggaagaaaat aaatcagcta ctccacaaca tgatccaatt 420  
 gaacaaagta attttaaaaa tagccttact acaacaagta aaactcctgc tattccttca 480  
 gaagaagaaa ttaaagctaa cttagatgaa tttgcacaag aagagtatga gcaaacatct 540  
 ctttcagaaa ttaaaaatgc cagcgaatt gttaatcatg ctaatcctga aaacaaatta 600  
 aacaatacac tccttgagtt tgaaaaagat tatgaaactt tatcaaactt gttattctct 660  
 aatttagacg catctccttt gaatagaaaa ataaagacta ttatgcctaa attacaagaa 720  
 atgcgttctt ttatggagca agcaactaat tcttgggtat ctgctaaagg catgctagat 780  
 gaggctaagg ataaactagc agaattctatt tataaaagac tatacaatgg caattcatac 840  
 cggttcggtg gcagttttta cggacgtgat atgcaacatg caaaaaattt agcatacaga 900  
 gctatagact ttgcttctgc atgcattgaa tatacacaaa aagctattga ttatcttcaa 960  
 cagggaatt cttgcaaaaa agaaatagaa aatatattca agctttaa 1008

<210> 633  
 <211> 859  
 <212> DNA  
 <213> Homo sapiens

<400> 633  
 aaaagatcat caagaaaata aaaatactac taatacttca gtagataaaa atagtaagga 60  
 aattgaatct cctaaagacg ttacatcatc aaataaaaaa acttatgatc caatcttaca 120  
 agtaggttct aatcaacata tgtcagatga tcttggtgct aataataaag aatccctacc 180  
 aaattcaagt ccagcaataa taaaaaatga ctgcgatgct caaaataatg taaagatgga 240  
 agaaaaataa tcagctactc cacaacatga tccaattgaa caaagtaatt ttaaaaatag 300  
 ccttactaca acaagtaaaa ctctgctat tcttcagaa gaagaaatta aagctaactt 360  
 agatgaattt gcacaagaag agtatgagca aacatctctt tcagaaatta aaaatgccac 420  
 gcaaattggt aatcatgcta atcctgaaaa caaattaaac aatacactcc ttgagtttga 480  
 aaaagattat gaaactttat caaacttggt attctctaatt ttagacgcat ctcttttgaa 540  
 tagaaaaata aagactatta tgctaaatt acaagaaatg cgttctttta tggagcaagc 600  
 aactaattct tgggtatctg ctaaaggcat gctagatgag gctaaggata aactagcaga 660  
 atctatttat aaaagactat caaatggcaa ttcataccgg ttcggtggca gttttaacgg 720  
 acgtgatatg caacatgcaa aaaatttagc atacagagct atagactttg cttctgcatg 780  
 cattgaatat acacaaaaag ctattgatta tcttcaacag ggaaattctt gcaaaaaaga 840  
 aatagaaaat atattcaag 859

<210> 634  
 <211> 334  
 <212> PRT  
 <213> Homo sapiens

<400> 634

Lys Gly Asn Ile Asn Ile Met Arg Leu Cys Leu Ile Lys Ile Phe Ile  
 1 5 10 15  
 Ile Pro Asn Leu Val Phe Ser Ser Leu Phe Leu Phe Glu Ser Cys Ser  
 20 25 30  
 Gly Phe Leu Ser Lys Lys Ser Ile Glu Gln Phe Ala Leu Ala Leu Lys  
 35 40 45  
 Asp His Gln Glu Asn Lys Asn Thr Thr Asn Thr Ser Val Asp Lys Asn  
 50 55 60  
 Ser Lys Glu Ile Glu Ser Pro Lys Asp Val Thr Ser Ser Asn Lys Lys  
 65 70 75 80  
 Thr Tyr Asp Pro Ile Leu Gln Val Gly Ser Asn Gln His Met Ser Asp  
 85 90 95  
 Asp Pro Gly Ala Asn Asn Lys Glu Ser Leu Pro Asn Ser Ser Pro Ala  
 100 105 110  
 Ile Ile Gln Asn Asp Ser His Ala Gln Asn Asn Val Lys Met Glu Glu  
 115 120 125  
 Asn Lys Ser Ala Thr Pro Gln His Asp Pro Ile Glu Gln Ser Asn Phe  
 130 135 140  
 Lys Asn Ser Leu Thr Thr Thr Ser Lys Thr Pro Ala Ile Pro Ser Glu  
 145 150 155 160  
 Glu Glu Ile Lys Ala Asn Leu Asp Glu Phe Ala Gln Glu Glu Tyr Glu  
 165 170 175  
 Gln Thr Ser Leu Ser Glu Ile Lys Asn Ala Thr Gln Ile Val Asn His  
 180 185 190  
 Ala Asn Pro Glu Asn Lys Leu Asn Asn Thr Leu Leu Glu Phe Glu Lys  
 195 200 205  
 Asp Tyr Glu Thr Leu Ser Asn Leu Leu Phe Ser Asn Leu Asp Ala Ser  
 210 215 220  
 Pro Leu Asn Arg Lys Ile Lys Thr Ile Met Pro Lys Leu Gln Glu Met  
 225 230 235 240  
 Arg Ser Phe Met Glu Gln Ala Thr Asn Ser Trp Val Ser Ala Lys Gly  
 245 250 255  
 Met Leu Asp Glu Ala Lys Asp Lys Leu Ala Glu Ser Ile Tyr Lys Arg  
 260 265 270  
 Leu Tyr Asn Gly Asn Ser Tyr Arg Phe Gly Gly Ser Phe Asn Gly Arg  
 275 280 285  
 Asp Met Gln His Ala Lys Asn Leu Ala Tyr Arg Ala Ile Asp Phe Ala  
 290 295 300  
 Ser Ala Cys Ile Glu Tyr Thr Gln Lys Ala Ile Asp Tyr Leu Gln Gln

305                      310                      315                      320  
 Gly Asn Ser Cys Lys Lys Glu Ile Glu Asn Ile Phe Lys Leu  
                                  325                      330  
  
 <210> 635  
 <211> 286  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 635  
 Lys Asp His Gln Glu Asn Lys Asn Thr Thr Asn Thr Ser Val Asp Lys  
   1                                      5                                      10                                      15  
 Asn Ser Lys Glu Ile Glu Ser Pro Lys Asp Val Thr Ser Ser Asn Lys  
                                  20                                      25                                      30  
 Lys Thr Tyr Asp Pro Ile Leu Gln Val Gly Ser Asn Gln His Met Ser  
                                  35                                      40                                      45  
 Asp Asp Pro Gly Ala Asn Asn Lys Glu Ser Leu Pro Asn Ser Ser Pro  
                                  50                                      55                                      60  
 Ala Ile Ile Gln Asn Asp Ser His Ala Gln Asn Asn Val Lys Met Glu  
   65                                      70                                      75                                      80  
 Glu Asn Lys Ser Ala Thr Pro Gln His Asp Pro Ile Glu Gln Ser Asn  
                                  85                                      90                                      95  
 Phe Lys Asn Ser Leu Thr Thr Thr Ser Lys Thr Pro Ala Ile Pro Ser  
                                  100                                      105                                      110  
 Glu Glu Glu Ile Lys Ala Asn Leu Asp Glu Phe Ala Gln Glu Glu Tyr  
                                  115                                      120                                      125  
 Glu Gln Thr Ser Leu Ser Glu Ile Lys Asn Ala Thr Gln Ile Val Asn  
                                  130                                      135                                      140  
 His Ala Asn Pro Glu Asn Lys Leu Asn Asn Thr Leu Leu Glu Phe Glu  
   145                                      150                                      155                                      160  
 Lys Asp Tyr Glu Thr Leu Ser Asn Leu Leu Phe Ser Asn Leu Asp Ala  
                                  165                                      170                                      175  
 Ser Pro Leu Asn Arg Lys Ile Lys Thr Ile Met Pro Lys Leu Gln Glu  
                                  180                                      185                                      190  
 Met Arg Ser Phe Met Glu Gln Ala Thr Asn Ser Trp Val Ser Ala Lys  
                                  195                                      200                                      205  
 Gly Met Leu Asp Glu Ala Lys Asp Lys Leu Ala Glu Ser Ile Tyr Lys  
                                  210                                      215                                      220  
 Arg Leu Tyr Asn Gly Asn Ser Tyr Arg Phe Gly Gly Ser Phe Asn Gly  
   225                                      230                                      235                                      240  
 Arg Asp Met Gln His Ala Lys Asn Leu Ala Tyr Arg Ala Ile Asp Phe  
                                  245                                      250                                      255

Ala Ser Ala Cys Ile Glu Tyr Thr Gln Lys Ala Ile Asp Tyr Leu Gln  
 260 265 270

Gln Gly Asn Ser Cys Lys Lys Glu Ile Glu Asn Ile Phe Lys  
 275 280 285

<210> 636

<211> 630

<212> DNA

<213> Homo sapiens

<400> 636

```

tagatgaatt taattgctaa attatttatt ttatccactt tagtttcaat tccaaatatt 60
ctctcttgta acctatatga taatcttgca gacaacgctg agcagggttac agacatacta 120
gacaacaaca agtcttttaa tacttttagga agcagcaatg agagtagaag tcgcaggcct 180
agaagtacaa ataatgctta tatgaaacaa aacatagaca aaaatcattt agttgttgca 240
gatatgcaaa atgataatag tagcagcagt cttccccaac aagttaatag tgaatccagt 300
aaagctaattg aagatagtaa tattatgaag gaaattgaat cttctacaga agagtgcgct 360
agactaagaa aagattttaga aactataaaa caaataacttg ataatataga aagcttgctt 420
aatacagcta attcttattt agagaacgct agaaaagcac ctaaatactaa tcaagataat 480
caaaccttat tgcttagcct gcaccaagct attgctaagg ttaagagtag tcatacttct 540
tttatcattt gttataatga tgcatttaatt tccctgggaa tagctgatac tgcctttaa 600
gatgcaaaga gaaaggcagt tgaggcataa 630

```

<210> 637

<211> 562

<212> DNA

<213> Homo sapiens

<400> 637

```

ttgtaaccta tatgataatc ttgcagacaa cgctgagcag gttacagaca tactagacaa 60
caacaagtct tttaatáctt taggaagcag caatgagagt agaagtgcga ggcctagaag 120
tacaataat gcttatatga aacaaaacat agacaaaaat catttagttg ttgcagatat 180
gcaaatgat aatagtagca gcagtcttcc ccaacaagtt aatagtgaat ccagtaaagc 240
taatgaagat agtaatatta tgaaggaaat tgaatcttct acagaagagt gcgctagact 300
aagaaaagat ttagaaacta taaaacaaat ácttgataat atagaaagct tgcttaatac 360
agctaattct tatttagaga acgctagaaa agcacctaaa tctaatacaag ataatacaac 420
cttattgctt agcctgcacc aagctattgc taagggttaag agtagtcata cttcttttat 480
catttgttat aatgatgcat ttaattccct gggaatagct gatactgcct ttaaagatgc 540
aaagagaaag gcagttgagg ca 562

```

<210> 638

<211> 208

<212> PRT

<213> Homo sapiens

<400> 638

Met Asn Leu Ile Ala Lys Leu Phe Ile Leu Ser Thr Leu Val Ser Ile  
 1 5 10 15

Pro Asn Ile Leu Ser Cys Asn Leu Tyr Asp Asn Leu Ala Asp Asn Ala  
 20 25 30

Glu Gln Val Thr Asp Ile Leu Asp Asn Asn Lys Ser Phe Asn Thr Leu  
 35 40 45

Gly Ser Ser Asn Glu Ser Arg Ser Arg Arg Pro Arg Ser Thr Asn Asn

50	55	60
Ala Tyr Met Lys Gln Asn Ile Asp Lys Asn His Leu Val Val Ala Asp 65 70 75 80		
Met Gln Asn Asp Asn Ser Ser Ser Ser Leu Pro Gln Gln Val Asn Ser 85 90 95		
Glu Ser Ser Lys Ala Asn Glu Asp Ser Asn Ile Met Lys Glu Ile Glu 100 105 110		
Ser Ser Thr Glu Glu Cys Ala Arg Leu Arg Lys Asp Leu Glu Thr Ile 115 120 125		
Lys Gln Ile Leu Asp Asn Ile Glu Ser Leu Leu Asn Thr Ala Asn Ser 130 135 140		
Tyr Leu Glu Asn Ala Arg Lys Ala Pro Lys Ser Asn Gln Asp Asn Gln 145 150 155 160		
Thr Leu Leu Leu Ser Leu His Gln Ala Ile Ala Lys Val Lys Ser Ser 165 170 175		
His Thr Ser Phe Ile Ile Cys Tyr Asn Asp Ala Phe Asn Ser Leu Gly 180 185 190		
Ile Ala Asp Thr Ala Phe Lys Asp Ala Lys Arg Lys Ala Val Glu Ala 195 200 205		

&lt;210&gt; 639

&lt;211&gt; 187

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 639

Cys Asn Leu Tyr Asp Asn Leu Ala Asp Asn Ala Glu Gln Val Thr Asp 1 5 10 15
Ile Leu Asp Asn Asn Lys Ser Phe Asn Thr Leu Gly Ser Ser Asn Glu 20 25 30
Ser Arg Ser Arg Arg Pro Arg Ser Thr Asn Asn Ala Tyr Met Lys Gln 35 40 45
Asn Ile Asp Lys Asn His Leu Val Val Ala Asp Met Gln Asn Asp Asn 50 55 60
Ser Ser Ser Ser Leu Pro Gln Gln Val Asn Ser Glu Ser Ser Lys Ala 65 70 75 80
Asn Glu Asp Ser Asn Ile Met Lys Glu Ile Glu Ser Ser Thr Glu Glu 85 90 95
Cys Ala Arg Leu Arg Lys Asp Leu Glu Thr Ile Lys Gln Ile Leu Asp 100 105 110



Asn Ile Glu Ser Leu Leu Asn Thr Ala Asn Ser Tyr Leu Glu Asn Ala  
115 120 125

Arg Lys Ala Pro Lys Ser Asn Gln Asp Asn Gln Thr Leu Leu Leu Ser  
130 135 140

Leu His Gln Ala Ile Ala Lys Val Lys Ser Ser His Thr Ser Phe Ile  
145 150 155 160

Ile Cys Tyr Asn Asp Ala Phe Asn Ser Leu Gly Ile Ala Asp Thr Ala  
165 170 175

Phe Lys Asp Ala Lys Arg Lys Ala Val Glu Ala  
180 185

<210> 640

<211> 1080

<212> DNA

<213> Homo sapiens

<400> 640

taaaaaaata	aggaggtatt	aatgaaaagg	aaaagcaata	tatgtatttc	acttctagtc	60
acaatattat	ttgtgtcctg	caagtttttt	ggaaataaaa	gcgcaagtaa	agaaaaagaa	120
gaaacttctt	tttctgatac	tgctagcaag	attagtaagt	cgggaacagc	tgcttcttca	180
gacaaacaag	aaaaaaatac	aagtgatggt	acaggtgacg	ccaaaaagca	tactagtagc	240
ccttacatgc	ttgctgatgc	ccttattggt	agtgatacta	ctaatagaga	tagagataag	300
caagaaaata	aagataaatt	aaatgaagaa	gataaaaaaa	agcttaaatgc	tttttttagc	360
acaactaaaa	catatcaatc	tagcctagat	tccatttata	acaaatatac	aggctattat	420
aataccattg	atacctatgg	cagctgtgat	acgtatcgca	ttgagtgttt	tagtgtagga	480
ccttctgaaa	aacgtaaaca	agctcttgct	gatctagaga	agttaaaact	agacgaaaag	540
tacactcagc	ttagcacaat	gttaaagagt	gctgtgccta	gttattacaa	aaaaaattta	600
gatgattcta	ttgcacagta	taaggaagcc	ataaagcagg	ctattgaagc	tgaaagtaaa	660
atagagacag	taaaagacta	tgcaacagct	caaagtgtcg	ccgatgacga	aaagaaaaga	720
aatatagata	atttaaaaaa	agttagagat	gttcttctta	ttattaaaaa	aactattgag	780
aaagccagcc	gatcttatgc	tgatgctttt	gctattgcaa	catctagctt	atcttgtagc	840
gaattttaagc	aagctgttaa	agagtttaat	gatgctgcta	aacaatatgc	taatggaaat	900
aaaggagaca	atgctgtcaa	tgttattgta	ggcactatit	ctagtatgcc	ttatgtcaaa	960
tttaaagatg	agtttgcaag	agcaaaaatg	tttgctcgta	attatagagg	agacgaggtta	1020
gacaagatga	taagagctat	cgacaagctg	tgtgatgttt	ataaaaaagt	tgcgcttttag	1080

<210> 641

<211> 970

<212> DNA

<213> Homo sapiens

<400> 641

ttgcaagttt	tttggaata	aaagcgcaag	taaagaaaaa	gaagaaactt	ctttttctga	60
tactgctagc	aagattagta	agtcgggaac	agctgcttct	tcagacaaac	aagaaaaaaa	120
tacaagtgat	gttacagggtg	acgccaaaaa	gcatactagt	agcccttaca	tgcttgctga	180
tgcccttatt	gttagtgata	ctactaatag	agatagagat	aagcaagaaa	ataaagataa	240
attaaatgaa	gaagataaaa	aaaagcttaa	tgcttttttt	agcacaacta	aaacatatca	300
atctagccta	gattccattt	ataacaaata	tacaggctat	tataatacca	ttgataccta	360
tggcagctgt	gatacgtatc	gcattgagtg	ttttagtgtg	ggaccttctg	aaaaacgtaa	420
acaagctctt	gctgatctag	agaagttaaa	actagacgaa	aagtacactc	agcttagcac	480
aatgttaaag	agtgtgtgtc	ctagtattaa	caaaaaaaat	ttagatgatt	ctattgcaca	540
gtataaggaa	gccataaagc	aggctattga	agctgaaaag	aaaatagaga	cagtaaaaga	600
ctatgcaaca	gctcaaagtg	ctgccgatga	cgaaaagaaa	agaaaatatg	ataattttaa	660

```

aatagttaga gatgttcttc ttattattaa aaaaactatt gagaaagcca gccgatctta 720
tgctgatgct tttgctattg caacatctag cttatcttgt agcgaattta agcaagctgt 780
taaagagttt aatgatgctg ctaaacaata tgctaattga aataaaggag acaatgctgt 840
caatgttatt gtaggcacta tttctagtat gccttatgtc aaatttaaag atgagtttgc 900
aagagcaaaa atgtttgctc gtaattatag aggagacgag gtagacaaga tgataagagc 960
tatcgacaag                                     970

```

```

<210> 642
<211> 358
<212> PRT
<213> Homo sapiens

```

```

<400> 642
Lys Asn Lys Glu Val Leu Met Lys Arg Lys Ser Asn Ile Cys Ile Ser
 1              5              10              15

Leu Leu Val Thr Ile Leu Phe Val Ser Cys Lys Phe Phe Gly Asn Lys
      20              25              30

Ser Ala Ser Lys Glu Lys Glu Glu Thr Ser Phe Ser Asp Thr Ala Ser
      35              40              45

Lys Ile Ser Lys Ser Gly Thr Ala Ala Ser Ser Asp Lys Gln Glu Lys
      50              55              60

Asn Thr Ser Asp Val Thr Gly Asp Ala Lys Lys His Thr Ser Ser Pro
      65              70              75              80

Tyr Met Leu Ala Asp Ala Leu Ile Val Ser Asp Thr Thr Asn Arg Asp
      85              90              95

Arg Asp Lys Gln Glu Asn Lys Asp Lys Leu Asn Glu Glu Asp Lys Lys
      100              105              110

Lys Leu Asn Ala Phe Phe Ser Thr Thr Lys Thr Tyr Gln Ser Ser Leu
      115              120              125

Asp Ser Ile Tyr Asn Lys Tyr Thr Gly Tyr Tyr Asn Thr Ile Asp Thr
      130              135              140

Tyr Gly Ser Cys Asp Thr Tyr Arg Ile Glu Cys Phe Ser Val Gly Pro
      145              150              155              160

Ser Glu Lys Arg Lys Gln Ala Leu Ala Asp Leu Glu Lys Leu Lys Leu
      165              170              175

Asp Glu Lys Tyr Thr Gln Leu Ser Thr Met Leu Lys Ser Ala Val Pro
      180              185              190

Ser Tyr Tyr Lys Lys Asn Leu Asp Asp Ser Ile Ala Gln Tyr Lys Glu
      195              200              205

Ala Ile Lys Gln Ala Ile Glu Ala Glu Ser Lys Ile Glu Thr Val Lys
      210              215              220

Asp Tyr Ala Thr Ala Gln Ser Ala Ala Asp Asp Glu Lys Lys Arg Asn
      225              230              235              240

```

Ile Asp Asn Leu Lys Ile Val Arg Asp Val Leu Leu Ile Ile Lys Lys  
                   245                  250                  255

Thr Ile Glu Lys Ala Ser Arg Ser Tyr Ala Asp Ala Phe Ala Ile Ala  
                   260                  265                  270

Thr Ser Ser Leu Ser Cys Ser Glu Phe Lys Gln Ala Val Lys Glu Phe  
                   275                  280                  285

Asn Asp Ala Ala Lys Gln Tyr Ala Asn Gly Asn Lys Gly Asp Asn Ala  
                   290                  295                  300

Val Asn Val Ile Val Gly Thr Ile Ser Ser Met Pro Tyr Val Lys Phe  
                   305                  310                  315                  320

Lys Asp Glu Phe Ala Arg Ala Lys Met Phe Ala Arg Asn Tyr Arg Gly  
                   325                  330                  335

Asp Glu Val Asp Lys Met Ile Arg Ala Ile Asp Lys Leu Cys Asp Val  
                   340                  345                  350

Tyr Lys Lys Val Ala Leu  
                   355

&lt;210&gt; 643

&lt;211&gt; 323

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 643

Cys Lys Phe Phe Gly Asn Lys Ser Ala Ser Lys Glu Lys Glu Glu Thr  
   1                  5                  10                  15

Ser Phe Ser Asp Thr Ala Ser Lys Ile Ser Lys Ser Gly Thr Ala Ala  
                   20                  25                  30

Ser Ser Asp Lys Gln Glu Lys Asn Thr Ser Asp Val Thr Gly Asp Ala  
                   35                  40                  45

Lys Lys His Thr Ser Ser Pro Tyr Met Leu Ala Asp Ala Leu Ile Val  
                   50                  55                  60

Ser Asp Thr Thr Asn Arg Asp Arg Asp Lys Gln Glu Asn Lys Asp Lys  
                   65                  70                  75                  80

Leu Asn Glu Glu Asp Lys Lys Lys Leu Asn Ala Phe Phe Ser Thr Thr  
                   85                  90                  95

Lys Thr Tyr Gln Ser Ser Leu Asp Ser Ile Tyr Asn Lys Tyr Thr Gly  
                   100                  105                  110

Tyr Tyr Asn Thr Ile Asp Thr Tyr Gly Ser Cys Asp Thr Tyr Arg Ile  
                   115                  120                  125

Glu Cys Phe Ser Val Gly Pro Ser Glu Lys Arg Lys Gln Ala Leu Ala  
                   130                  135                  140

Asp Leu Glu Lys Leu Lys Leu Asp Glu Lys Tyr Thr Gln Leu Ser Thr

145	150	155	160
Met Leu Lys Ser Ala Val Pro Ser Tyr Tyr Lys Lys Asn Leu Asp Asp	165	170	175
Ser Ile Ala Gln Tyr Lys Glu Ala Ile Lys Gln Ala Ile Glu Ala Glu	180	185	190
Ser Lys Ile Glu Thr Val Lys Asp Tyr Ala Thr Ala Gln Ser Ala Ala	195	200	205
Asp Asp Glu Lys Lys Arg Asn Ile Asp Asn Leu Lys Ile Val Arg Asp	210	215	220
Val Leu Leu Ile Ile Lys Lys Thr Ile Glu Lys Ala Ser Arg Ser Tyr	225	230	235
Ala Asp Ala Phe Ala Ile Ala Thr Ser Ser Leu Ser Cys Ser Glu Phe	245	250	255
Lys Gln Ala Val Lys Glu Phe Asn Asp Ala Ala Lys Gln Tyr Ala Asn	260	265	270
Gly Asn Lys Gly Asp Asn Ala Val Asn Val Ile Val Gly Thr Ile Ser	275	280	285
Ser Met Pro Tyr Val Lys Phe Lys Asp Glu Phe Ala Arg Ala Lys Met	290	295	300
Phe Ala Arg Asn Tyr Arg Gly Asp Glu Val Asp Lys Met Ile Arg Ala	305	310	315
Ile Asp Lys			

&lt;210&gt; 644

&lt;211&gt; 696

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 644

```

taaggaaata tgaggaatat tagcaattgt atcaaatata ttatattaac aatgcttatt 60
ggattattaa ttttttggtg tgcaaccttt gtttggttga ttggaatttt ttattcaaatt 120
aacttttaaag aagagcggaa ttattcaata agcccaatag atagtgttat tatgcgtaaa 180
tgttattttt aagaatttaa gtctggactt attaaaagcg tattctttta gaaattagat 240
gtaaatgtta actctaaaaa ttttaaggag ctaaataagg tagataaaca aaatctgcta 300
aattcttatc catcttatca tatggagttt gtcgtagttg ataatggatt tttaatgaat 360
tttaaaaatg ttatttttaa tggatatagat gatgctaaat tatacgatca acgtgatatg 420
gtttacggag gatttagata ctcaaaagag gcttatttcc aaattatttg caattatgat 480
gttaaattaa ataaaatgaa acaatatact ccagcaattg tagtaaatgt tttcaaaatt 540
aacattaatg atgcttttatt taactcgtta ttaaagcaaa aaacttttaa agttactttg 600
atttcccata ataataaaga gtatatttta caaactaata atttcttatc aaagtataat 660
tttcaaacac cagaaaagga gaatagttct tactaa 696

```

&lt;210&gt; 645

&lt;211&gt; 577

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 645

```

aaataacttt aaagaagagc ggaattattc aataagccca atagatagtg ttattatgcg 60
taaagtgtat tttaaagaat ttaagtctgg acttattaaa agcgtattct ttaagaaatt 120
agatgtaaat gttaactcta aaaattttta ggagctaaat aaggtagata aacaaaatct 180
gctaaattct tatccatctt atcatatgga gtttgctgta gttgataatg gatttttaat 240
gaattttaaa aatggtattt ttaatggtat agatgatgct aaattatacg atcaacgtga 300
tatgggtttac ggaggatttta gatactcaaa agaggcttat ttccaaatta ttggcaatta 360
tgatgttaaa ttaaataaaaa tgaaacaata tactccagca attgtagtaa atgttttcaa 420
aattaacatt aatgatgctt tatttaactc gttattaaag caaaaaactt taaaagttac 480
tttgatttcc cataataata aagagtatat ttacaaaact aataatttct tatcaaagta 540
taattttcaa acaccagaaa aggagaatag ttctttac 577

```

&lt;210&gt; 646

&lt;211&gt; 230

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 646

```

Gly Asn Met Arg Asn Ile Ser Asn Cys Ile Lys Tyr Ile Ile Leu Thr
1           5           10           15

```

```

Met Leu Ile Gly Leu Leu Ile Phe Cys Cys Ala Thr Phe Val Trp Leu
                20           25           30

```

```

Ile Gly Ile Phe Tyr Ser Asn Asn Phe Lys Glu Glu Arg Asn Tyr Ser
35           40           45

```

```

Ile Ser Pro Ile Asp Ser Val Ile Met Arg Lys Cys Tyr Phe Lys Glu
50           55           60

```

```

Phe Lys Ser Gly Leu Ile Lys Ser Val Phe Phe Lys Lys Leu Asp Val
65           70           75           80

```

```

Asn Val Asn Ser Lys Asn Phe Lys Glu Leu Asn Lys Val Asp Lys Gln
85           90           95

```

```

Asn Leu Leu Asn Ser Tyr Pro Ser Tyr His Met Glu Phe Val Val Val
100          105          110

```

```

Asp Asn Gly Phe Leu Met Asn Phe Lys Asn Val Ile Phe Asn Gly Ile
115          120          125

```

```

Asp Asp Ala Lys Leu Tyr Asp Gln Arg Asp Met Val Tyr Gly Gly Phe
130          135          140

```

```

Arg Tyr Ser Lys Glu Ala Tyr Phe Gln Ile Ile Gly Asn Tyr Asp Val
145          150          155          160

```

```

Lys Leu Asn Lys Met Lys Gln Tyr Thr Pro Ala Ile Val Val Asn Val
165          170          175

```

```

Phe Lys Ile Asn Ile Asn Asp Ala Leu Phe Asn Ser Leu Leu Lys Gln
180          185          190

```

```

Lys Thr Leu Lys Val Thr Leu Ile Ser His Asn Asn Lys Glu Tyr Ile
195          200          205

```

Leu Gln Thr Asn Asn Phe Leu Ser Lys Tyr Asn Phe Gln Thr Pro Glu  
 210 215 220

Lys Glu Asn Ser Ser Tyr  
 225 230

<210> 647

<211> 192

<212> PRT

<213> Homo sapiens

<400> 647

Asn Asn Phe Lys Glu Glu Arg Asn Tyr Ser Ile Ser Pro Ile Asp Ser  
 1 5 10 15

Val Ile Met Arg Lys Cys Tyr Phe Lys Glu Phe Lys Ser Gly Leu Ile  
 20 25 30

Lys Ser Val Phe Phe Lys Lys Leu Asp Val Asn Val Asn Ser Lys Asn  
 35 40 45

Phe Lys Glu Leu Asn Lys Val Asp Lys Gln Asn Leu Leu Asn Ser Tyr  
 50 55 60

Pro Ser Tyr His Met Glu Phe Val Val Val Asp Asn Gly Phe Leu Met  
 65 70 75 80

Asn Phe Lys Asn Val Ile Phe Asn Gly Ile Asp Asp Ala Lys Leu Tyr  
 85 90 95

Asp Gln Arg Asp Met Val Tyr Gly Gly Phe Arg Tyr Ser Lys Glu Ala  
 100 105 110

Tyr Phe Gln Ile Ile Gly Asn Tyr Asp Val Lys Leu Asn Lys Met Lys  
 115 120 125

Gln Tyr Thr Pro Ala Ile Val Val Asn Val Phe Lys Ile Asn Ile Asn  
 130 135 140

Asp Ala Leu Phe Asn Ser Leu Leu Lys Gln Lys Thr Leu Lys Val Thr  
 145 150 155 160

Leu Ile Ser His Asn Asn Lys Glu Tyr Ile Leu Gln Thr Asn Asn Phe  
 165 170 175

Leu Ser Lys Tyr Asn Phe Gln Thr Pro Glu Lys Glu Asn Ser Ser Tyr  
 180 185 190

<210> 648

<211> 837

<212> DNA

<213> Homo sapiens

<400> 648

taaatgagca aaaaagtaat tttaatatta ctagaaatctt tgatcttgctc ttgtgattta 60

```

tctataaata aagaacaaaa aaccaaagaa aaaacatctg aaaagcaaga atctgaaaaa 120
caaaatattg aaaaacaaga gcctgaaaaa cagaaacaaa atgcagcaaa aataatccct 180
acggtatcaa ttcaaacggt agaaataagg gaatcaaatc aaattccaaa aagcattgag 240
aagtactaca agcaagctta tccgattcaa acattcactc ttgatttttag catcacaaga 300
gaaaaggaat ttctaaaacc agaagataaa atcttgccca cacaggggaa agtggagtct 360
ttgagcatct taataaataa aaaattgtta gactttaaag cccagaaaaa tccaaaaagc 420
tcaactttta aaaattttcaa agaaattaaa aatattgaga atttcttcca aaatcaagac 480
ttattatttg tcttaaccct taaagataaa aataacaaca acactattaa catcatgctc 540
aatcccccaa acgacatcca aaaacccaaa gattatattt taaaagacct taaagacaca 600
attaaaaagg gtactgggtga gaaatactta aatcctatct atagatttca aataaaaaac 660
aaaaaagatt atcattcaat agattacaac aaagtgaact ttagcgaaaa aacaatagaa 720
ttggacctac tgcctcacga acaagtcttt caaatgaata aaaatttcac taaaatttta 780
gacacaataa cagacttaaa taatctaaaa ttagtaattc aaaaagaatt agtgtaa 837

```

<210> 649

<211> 724

<212> DNA

<213> Homo sapiens

<400> 649

```

ttgtgattta tctataaata aagaacaaaa aaccaaagaa aaaacatctg aaaagcaaga 60
atctgaaaaa caaaatattg aaaaacaaga gcctgaaaaa cagaaacaaa atgcagcaaa 120
aataatccct acggtatcaa ttcaaacggt agaaataagg gaatcaaatc aaattccaaa 180
aagcattgag aagtactaca agcaagctta tccgattcaa acattcactc ttgatttttag 240
catcacaaga gaaaaggaat ttctaaaacc agaagataaa atcttgccca cacaggggaa 300
agtggagtct ttgagcatct taataaataa aaaattgtta gactttaaag cccagaaaaa 360
tccaaaaagc tcaactttta aaaattttcaa agaaattaaa aatattgaga atttcttcca 420
aaatcaagac ttattatttg tcttaaccct taaagataaa aataacaaca acactattaa 480
catcatgctc aatcccccaa acgacatcca aaaacccaaa gattatattt taaaagacct 540
taaagacaca attaaaaagg gtactgggtga gaaatactta aatcctatct atagatttca 600
aataaaaaac aaaaaaagg atcattcaat agattacaac aaagtgaact ttagcgaaaa 660
aacaatagaa ttggacctac tgcctcacga acaagtcttt caaatgaata aaaatttcac 720
taaa 724

```

<210> 650

<211> 277

<212> PRT

<213> Homo sapiens

<400> 650

```

Met Ser Lys Lys Val Ile Leu Ile Leu Leu Glu Ile Leu Ile Leu Ser
  1                      5                      10                     15

Cys Asp Leu Ser Ile Asn Lys Glu Gln Lys Thr Lys Glu Lys Thr Ser
                20                      25                     30

Glu Lys Gln Glu Ser Glu Lys Gln Asn Ile Glu Lys Gln Glu Pro Glu
    35                      40                     45

Lys Gln Lys Gln Asn Ala Ala Lys Ile Ile Pro Thr Val Ser Ile Gln
    50                      55                     60

Thr Val Glu Ile Arg Glu Ser Asn Gln Ile Pro Lys Ser Ile Glu Lys
    65                      70                     75                     80

Tyr Tyr Lys Gln Ala Tyr Pro Ile Gln Thr Phe Thr Leu Asp Phe Ser
                85                      90                     95

```

Ile Thr Arg Glu Lys Glu Phe Leu Lys Pro Glu Asp Lys Ile Leu Pro  
 100 105 110

Thr Gln Gly Lys Val Glu Ser Leu Ser Ile Leu Ile Asn Lys Lys Leu  
 115 120 125

Leu Asp Phe Lys Ala Pro Glu Asn Pro Lys Ser Ser Thr Leu Lys Asn  
 130 135 140

Phe Lys Glu Ile Lys Asn Ile Glu Asn Phe Phe Gln Asn Gln Asp Leu  
 145 150 155 160

Leu Phe Val Leu Thr Leu Lys Asp Lys Asn Asn Asn Asn Thr Ile Asn  
 165 170 175

Ile Met Leu Asn Pro Pro Asn Asp Ile Gln Lys Pro Lys Asp Tyr Ile  
 180 185 190

Leu Lys Asp Leu Lys Asp Thr Ile Lys Lys Gly Thr Gly Glu Lys Tyr  
 195 200 205

Leu Asn Pro Ile Tyr Arg Phe Gln Ile Lys Asn Lys Lys Asp Tyr His  
 210 215 220

Ser Ile Asp Tyr Asn Lys Val Thr Ile Ser Glu Lys Thr Ile Glu Leu  
 225 230 235 240

Asp Leu Leu Pro His Glu Gln Val Phe Gln Met Asn Lys Asn Phe Thr  
 245 250 255

Lys Ile Leu Asp Thr Ile Thr Asp Leu Asn Asn Leu Lys Leu Val Ile  
 260 265 270

Gln Lys Glu Leu Val  
 275

<210> 651

<211> 241

<212> PRT

<213> Homo sapiens

<400> 651

Cys Asp Leu Ser Ile Asn Lys Glu Gln Lys Thr Lys Glu Lys Thr Ser  
 1 5 10 15

Glu Lys Gln Glu Ser Glu Lys Gln Asn Ile Glu Lys Gln Glu Pro Glu  
 20 25 30

Lys Gln Lys Gln Asn Ala Ala Lys Ile Ile Pro Thr Val Ser Ile Gln  
 35 40 45

Thr Val Glu Ile Arg Glu Ser Asn Gln Ile Pro Lys Ser Ile Glu Lys  
 50 55 60

Tyr Tyr Lys Gln Ala Tyr Pro Ile Gln Thr Phe Thr Leu Asp Phe Ser  
 65 70 75 80

Ile Thr Arg Glu Lys Glu Phe Leu Lys Pro Glu Asp Lys Ile Leu Pro



	85		90		95
Thr Gln Gly Lys Val Glu Ser Leu Ser Ile Leu Ile Asn Lys Lys Leu	100		105		110
Leu Asp Phe Lys Ala Pro Glu Asn Pro Lys Ser Ser Thr Leu Lys Asn	115		120		125
Phe Lys Glu Ile Lys Asn Ile Glu Asn Phe Phe Gln Asn Gln Asp Leu	130		135		140
Leu Phe Val Leu Thr Leu Lys Asp Lys Asn Asn Asn Asn Thr Ile Asn	145		150		155
Ile Met Leu Asn Pro Pro Asn Asp Ile Gln Lys Pro Lys Asp Tyr Ile	165		170		175
Leu Lys Asp Leu Lys Asp Thr Ile Lys Lys Gly Thr Gly Glu Lys Tyr	180		185		190
Leu Asn Pro Ile Tyr Arg Phe Gln Ile Lys Asn Lys Lys Asp Tyr His	195		200		205
Ser Ile Asp Tyr Asn Lys Val Thr Ile Ser Glu Lys Thr Ile Glu Leu	210		215		220
Asp Leu Leu Pro His Glu Gln Val Phe Gln Met Asn Lys Asn Phe Thr	225		230		235
					240

Lys

&lt;210&gt; 652

&lt;211&gt; 579

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 652

```

tagaaggagg aaaaaatgaa aattggaaag ctaaattcaa tagttatagc cttgtttttt 60
aaactattgg tcgcatgtag tattggatta gtagaaagaa caaatgcagc tcttgaatcg 120
tcctctaagg atttaaaaaa caaaatttta aaaataaaaa aagaagccac gggaaaagg 180
gtactttttg aagctttttac aggtcttaaa accggttcca aggtacaagc tgggtggacta 240
gccttaagag aagcaaaaagt acaagccatt gttgaaacag gaaagttcct taagataata 300
gaagaagaag ctttaaaagct taaagaaact ggaaacagtg gtcaattcct ggctatgttt 360
gacttaatgc ttgaggttgt agaatcgcta gaagacgttg gaataatagg cttaaaagcc 420
cgtgttttag aggaatctaa aaataatcct ataaacacag ctgaaagatt gcttgcggct 480
aaagctcaaa tagaaaatca acttaaagtg gtttaaggaaa aacaaaatat tgaaaatgg 540
ggagagaaaa aaaataataa aagcaaaaaa aagaaataa 579

```

&lt;210&gt; 653

&lt;211&gt; 502

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 653

```

atgtagtatt ggattagtag aaagaacaaa tgcagctctt gaatcgctcct ctaaggattt 60
aaaaaacaaa atttttaaaaa taaaaaaaga agccacggga aaagggtgtac tttttgaagc 120
ttttacaggt cttaaaaccg gttccaagggt aacaagtggg ggactagcct taagagaagc 180

```

```

aaaagtacaa gccattgttg aaacaggaaa gttccttaag ataatagaag aagaagcttt 240
aaagcttaaa gaaactggaa acagtgggtca attcttggct atgtttgact taatgcttga 300
ggttgtagaa tcgctagaag acgttggaat aataggctta aaagcccgtg ttttagagga 360
atctaaaaat aatcctataa acacagctga aagattgctt gcggctaaag ctcaaataga 420
aaatcaactt aaagtgggta aggaaaaaca aaatattgaa aatggtggag agaaaaaaaa 480
taataaaagc aaaaaaaaga aa 502

```

<210> 654

<211> 191

<212> PRT

<213> Homo sapiens

<400> 654

```

Lys Glu Glu Lys Met Lys Ile Gly Lys Leu Asn Ser Ile Val Ile Ala
  1             5             10             15

```

```

Leu Phe Phe Lys Leu Leu Val Ala Cys Ser Ile Gly Leu Val Glu Arg
      20             25             30

```

```

Thr Asn Ala Ala Leu Glu Ser Ser Ser Lys Asp Leu Lys Asn Lys Ile
    35             40             45

```

```

Leu Lys Ile Lys Lys Glu Ala Thr Gly Lys Gly Val Leu Phe Glu Ala
    50             55             60

```

```

Phe Thr Gly Leu Lys Thr Gly Ser Lys Val Thr Ser Gly Gly Leu Ala
    65             70             75             80

```

```

Leu Arg Glu Ala Lys Val Gln Ala Ile Val Glu Thr Gly Lys Phe Leu
      85             90             95

```

```

Lys Ile Ile Glu Glu Glu Ala Leu Lys Leu Lys Glu Thr Gly Asn Ser
    100             105             110

```

```

Gly Gln Phe Leu Ala Met Phe Asp Leu Met Leu Glu Val Val Glu Ser
    115             120             125

```

```

Leu Glu Asp Val Gly Ile Ile Gly Leu Lys Ala Arg Val Leu Glu Glu
    130             135             140

```

```

Ser Lys Asn Asn Pro Ile Asn Thr Ala Glu Arg Leu Leu Ala Ala Lys
    145             150             155             160

```

```

Ala Gln Ile Glu Asn Gln Leu Lys Val Val Lys Glu Lys Gln Asn Ile
      165             170             175

```

```

Glu Asn Gly Gly Glu Lys Lys Asn Asn Lys Ser Lys Lys Lys Lys
    180             185             190

```

<210> 655

<211> 167

<212> PRT

<213> Homo sapiens

<400> 655

```

Cys Ser Ile Gly Leu Val Glu Arg Thr Asn Ala Ala Leu Glu Ser Ser
  1             5             10             15

```

Ser Lys Asp Leu Lys Asn Lys Ile Leu Lys Ile Lys Lys Glu Ala Thr  
                   20                  25                  30

Gly Lys Gly Val Leu Phe Glu Ala Phe Thr Gly Leu Lys Thr Gly Ser  
           35                  40                  45

Lys Val Thr Ser Gly Gly Leu Ala Leu Arg Glu Ala Lys Val Gln Ala  
       50                  55                  60

Ile Val Glu Thr Gly Lys Phe Leu Lys Ile Ile Glu Glu Glu Ala Leu  
       65                  70                  75                  80

Lys Leu Lys Glu Thr Gly Asn Ser Gly Gln Phe Leu Ala Met Phe Asp  
                   85                  90                  95

Leu Met Leu Glu Val Val Glu Ser Leu Glu Asp Val Gly Ile Ile Gly  
           100                  105                  110

Leu Lys Ala Arg Val Leu Glu Glu Ser Lys Asn Asn Pro Ile Asn Thr  
           115                  120                  125

Ala Glu Arg Leu Leu Ala Ala Lys Ala Gln Ile Glu Asn Gln Leu Lys  
       130                  135                  140

Val Val Lys Glu Lys Gln Asn Ile Glu Asn Gly Gly Glu Lys Lys Asn  
       145                  150                  155                  160

Asn Lys Ser Lys Lys Lys Lys  
                   165

<210> 656  
 <211> 525  
 <212> DNA  
 <213> Homo sapiens

<400> 656  
 taatttttaa aatttaaata tttacataat agtaatgtgt gtgggagacg tatgaaaaat 60  
 attttattat ttgtttatttt attattcttt tcttgtaaag aatttaatta ttctgatctt 120  
 aggagaaggc cttcaaaggt tttaaatgct tctaattggtg catcaaataa agaacttaaa 180  
 atttcttttg tagattcttt aaatgatgat caaaaagaag ctttgttttt tcttgaacag 240  
 gtagttcttg atagcaatcc cgacaagttt aatcaaattt ttaatttaaa tgaagagaag 300  
 gtaaaagaaa tgcttggttac tggtgtaag tgtttaaagg ccaaaagaaa ggctaaaatg 360  
 gctcttgaga gctcaaagt tgcaaagtgt gccaatgcta aacagcaatt gctacaggtt 420  
 gaaaaaactt acatagataa ttgcgacaa tcttttatga ctactaaaaa cattgaagag 480  
 gcttgtaatc ttgtaaaaaa ttatgatgca tctgcttcgt tttaa 525

<210> 657  
 <211> 430  
 <212> DNA  
 <213> Homo sapiens

<400> 657  
 ttgtaaagaa ttttaattatt ctgatcttag gagaaggcct tcaaagggtt taaatgcttc 60  
 taatggtgca tcaaataaag aacttaaaat ttcttttgta gattctttaa atgatgatca 120  
 aaaagaagct ttgttttttc ttgaacaggt agttcttgat agcaatcccg acaagttaa 180  
 tcaaattttt aatttaaatg aagagaaggt aaaagaaatg cttgttactg ttgttaagt 240  
 tttaaaggcc aaaagaaagg ctaaaatggc tcttgagagc tcaaagtgtg caaatgttgc 300  
 caatgctaaa cagcaattgc tacaggttga aaaaacttac atagataatt tgcgacaatc 360

ttttatgact actaaaaaca ttgaagaggc ttgtaatcctt gtaaaaaatt atgatgcatc 420  
tgcttcgttt 430

<210> 658

<211> 173

<212> PRT

<213> Homo sapiens

<400> 658

Phe Leu Lys Phe Lys Tyr Leu His Asn Ser Asn Val Cys Gly Arg Arg  
1 5 10 15

Met Lys Asn Ile Leu Leu Phe Val Ile Leu Leu Phe Phe Ser Cys Lys  
20 25 30

Glu Phe Asn Tyr Ser Asp Leu Arg Arg Arg Pro Ser Lys Val Leu Asn  
35 40 45

Ala Ser Asn Gly Ala Ser Asn Lys Glu Leu Lys Ile Ser Phe Val Asp  
50 55 60

Ser Leu Asn Asp Asp Gln Lys Glu Ala Leu Phe Phe Leu Glu Gln Val  
65 70 75 80

Val Leu Asp Ser Asn Pro Asp Lys Phe Asn Gln Ile Phe Asn Leu Asn  
85 90 95

Glu Glu Lys Val Lys Glu Met Leu Val Thr Val Val Lys Cys Leu Lys  
100 105 110

Ala Lys Arg Lys Ala Lys Met Ala Leu Glu Ser Ser Asn Val Ala Asn  
115 120 125

Val Ala Asn Ala Lys Gln Gln Leu Leu Gln Val Glu Lys Thr Tyr Ile  
130 135 140

Asp Asn Leu Arg Gln Ser Phe Met Thr Thr Lys Asn Ile Glu Glu Ala  
145 150 155 160

Cys Asn Leu Val Lys Asn Tyr Asp Ala Ser Ala Ser Phe  
165 170

<210> 659

<211> 143

<212> PRT

<213> Homo sapiens

<400> 659

Cys Lys Glu Phe Asn Tyr Ser Asp Leu Arg Arg Arg Pro Ser Lys Val  
1 5 10 15

Leu Asn Ala Ser Asn Gly Ala Ser Asn Lys Glu Leu Lys Ile Ser Phe  
20 25 30

Val Asp Ser Leu Asn Asp Asp Gln Lys Glu Ala Leu Phe Phe Leu Glu  
35 40 45

Gln Val Val Leu Asp Ser Asn Pro Asp Lys Phe Asn Gln Ile Phe Asn

50					55					60					
Leu	Asn	Glu	Glu	Lys	Val	Lys	Glu	Met	Leu	Val	Thr	Val	Val	Lys	Cys
65					70					75					80
Leu	Lys	Ala	Lys	Arg	Lys	Ala	Lys	Met	Ala	Leu	Glu	Ser	Ser	Asn	Val
				85					90					95	
Ala	Asn	Val	Ala	Asn	Ala	Lys	Gln	Gln	Leu	Leu	Gln	Val	Glu	Lys	Thr
			100					105					110		
Tyr	Ile	Asp	Asn	Leu	Arg	Gln	Ser	Phe	Met	Thr	Thr	Lys	Asn	Ile	Glu
		115					120					125			
Glu	Ala	Cys	Asn	Leu	Val	Lys	Asn	Tyr	Asp	Ala	Ser	Ala	Ser	Phe	
	130					135					140				

<210> 660

 $\langle 211 \rangle \quad 324$ 

<212> DNA

<213> Homo sapiens

<400> 660

taattatttaa	aatctaagga	gaagagattt	atgaacaaaa	aattttctat	ttcattatta	60
tctacaatat	tagccttctt	gtagtatta	ggttgtgatt	tgtcaagcaa	taatgctgaa	120
aacaaaatgg	atgatatttt	taatttagaa	aagaaataca	tggataattc	aaattataaa	180
tgtttaagta	aaaatgaggc	tatagttaaa	aattctaaaa	ttaaattagg	tgtaaataat	240
actagaagtc	gttcttattc	ttctagagag	actaatgttt	cggattccta	taataaaacc	300
tattcatatt	qcaaaaqcaa	ctga				324

<210> 661

<211> 229

<212> DNA

<213> Homo sapiens

<400> 661

ttgtgatttg	tcaagcaata	atgctgaaaa	caaaatggat	gatattttta	atttagaaaa	60
gaaatacatg	gataattcaa	attataaatg	tttaagtaaa	aatgaggcta	tagttaaaaa	120
ttctaaaatt	aaattaggtg	taaataatac	tagaagtcgt	tcttattctt	ctagagagac	180
taatgtttcg	gattcctata	ataaaaccta	ttcatattgc	aaaagcaac		229

<210> 662

<211> 106

<212> PRT

<213> Homo sapiens

<400> 662

Leu Leu Lys Ser Lys Glu Lys Arg Phe Met Asn Lys Lys Phe Ser Ile  
1 5 10 15

Ser Leu Leu Ser Thr Ile Leu Ala Phe Leu Leu Val Leu Gly Cys Asp  
20 25 30

Leu Ser Ser Asn Asn Ala Glu Asn Lys Met Asp Asp Ile Phe Asn Leu  
35 40 45

Glu Lys Lys Tyr Met Asp Asn Ser Asn Tyr Lys Cys Leu Ser Lys Asn  
50 55 60

Glu Ala Ile Val Lys Asn Ser Lys Ile Lys Leu Gly Val Asn Asn Thr  
65 70 75 80

Arg Ser Arg Ser Tyr Ser Ser Arg Glu Thr Asn Val Ser Asp Ser Tyr  
85 90 95

Asn Lys Thr Tyr Ser Tyr Cys Lys Ser Asn  
100 105

<210> 663

<211> 76

<212> PRT

<213> Homo sapiens

<400> 663

Cys Asp Leu Ser Ser Asn Asn Ala Glu Asn Lys Met Asp Asp Ile Phe  
1 5 10 15

Asn Leu Glu Lys Lys Tyr Met Asp Asn Ser Asn Tyr Lys Cys Leu Ser  
20 25 30

Lys Asn Glu Ala Ile Val Lys Asn Ser Lys Ile Lys Leu Gly Val Asn  
35 40 45

Asn Thr Arg Ser Arg Ser Tyr Ser Ser Arg Glu Thr Asn Val Ser Asp  
50 55 60

Ser Tyr Asn Lys Thr Tyr Ser Tyr Cys Lys Ser Asn  
65 70 75

<210> 664

<211> 459

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (29)

<223> n equals a,t,g, or c

<400> 664

tgaatattaa taataaaaaa aggaataana atgaaaatta tcaacatatt attttgttta 60  
tttttactaa tgctaaacag ctgtaattct aatgatacta atactagcca aacaaaaagt 120  
agacaaaaac gtgatttaac ccaaaaagaa gcaacacaag aaaaaccaaa atctaaagaa 180  
gacctgctta gagaaaagct atctgaagac caaaaaacac atcttgactg gttaaaaacc 240  
gctttaactg gtgctggaga atttgataaa tttttaggat atgacgaaga caaaataaaa 300  
ggtgcactta atcatataaa gagtgaactt gataagtgtg ctgggggataa ttctgaacaa 360  
caaaaaagca ccttcaaaga ggtggttaag ggggctcttg gtggcggtat agatagtttt 420  
gcaactagtg caagtagtac ctgccaaact cagcaataa 459

<210> 665

<211> 376

<212> DNA

<213> Homo sapiens

<400> 665

ctgtaattct aatgatacta atactagcca aacaaaaagt agacaaaaac gtgatttaac 60

```

ccaaaaagaa gcaacacaag aaaaaccaa atctaaagaa gacctgctta gagaaaagct 120
atctgaagac caaaaaacac atcttgactg gttaaaaacc gctttaactg gtgctggaga 180
atttgataaa tttttaggat atgacgaaga caaaataaaa ggtgcactta atcatataaa 240
gagtgaactt gataagtgtg ctggggataa ttctgaacaa caaaaaagca ccttcaaaga 300
ggtgggtaag ggggctcttg gtggcggtat agatagtttt gcaactagtg caagtagtac 360
ctgccaagct cagcaa 376

```

<210> 666

<211> 151

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (9)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 666

```

Ile Leu Ile Ile Lys Lys Gly Ile Xaa Met Lys Ile Ile Asn Ile Leu
  1           5           10           15

```

```

Phe Cys Leu Phe Leu Leu Met Leu Asn Ser Cys Asn Ser Asn Asp Thr
          20           25           30

```

```

Asn Thr Ser Gln Thr Lys Ser Arg Gln Lys Arg Asp Leu Thr Gln Lys
          35           40           45

```

```

Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys Glu Asp Leu Leu Arg Glu
          50           55           60

```

```

Lys Leu Ser Glu Asp Gln Lys Thr His Leu Asp Trp Leu Lys Thr Ala
          65           70           75           80

```

```

Leu Thr Gly Ala Gly Glu Phe Asp Lys Phe Leu Gly Tyr Asp Glu Asp
          85           90           95

```

```

Lys Ile Lys Gly Ala Leu Asn His Ile Lys Ser Glu Leu Asp Lys Cys
          100          105          110

```

```

Thr Gly Asp Asn Ser Glu Gln Gln Lys Ser Thr Phe Lys Glu Val Val
          115          120          125

```

```

Lys Gly Ala Leu Gly Gly Gly Ile Asp Ser Phe Ala Thr Ser Ala Ser
          130          135          140

```

```

Ser Thr Cys Gln Ala Gln Gln
145          150

```

<210> 667

<211> 125

<212> PRT

<213> Homo sapiens

<400> 667

```

Cys Asn Ser Asn Asp Thr Asn Thr Ser Gln Thr Lys Ser Arg Gln Lys
  1           5           10           15

```

```

Arg Asp Leu Thr Gln Lys Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys

```

20 25 30

Glu Asp Leu Leu Arg Glu Lys Leu Ser Glu Asp Gln Lys Thr His Leu  
35 40 45

Asp Trp Leu Lys Thr Ala Leu Thr Gly Ala Gly Glu Phe Asp Lys Phe  
50 55 60

Leu Gly Tyr Asp Glu Asp Lys Ile Lys Gly Ala Leu Asn His Ile Lys  
65 70 75 80

Ser Glu Leu Asp Lys Cys Thr Gly Asp Asn Ser Glu Gln Gln Lys Ser  
85 90 95

Thr Phe Lys Glu Val Val Lys Gly Ala Leu Gly Gly Gly Ile Asp Ser  
100 105 110

Phe Ala Thr Ser Ala Ser Ser Thr Cys Gln Ala Gln Gln  
115 120 125

&lt;210&gt; 668

&lt;211&gt; 1047

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 668

```

taggagagaa taattatgaa taaaaaaaca ttgattatTT gtgctgTTTT tgcgctgata 60
atttcttgca agaattttgc aactggtaaa gatataaaac aaaattcaga agggaaaatt 120
aaaggatttg taaataagat tttagatcca gtaaaggata aaattgcttc aagtggatca 180
aaagtagatg aagtagcaaa aaaattacaa gaagaagaaa aagaagaatt aatgcagggc 240
gatgatccta atggcagtgg aataaatccg ccaccagtat tgccggaaaa tattcacaat 300
aatgcattag tattaaaagc aatagaacaa agtgatggtc aacaagaaaa aaaagtagaa 360
gaagctgaag ctaaagtTga agaaaataaa gaaaaacaag agaatacaga agaaaacatt 420
aaagaaaaag aaataataga cgaacaaaac aaacaagaat tagctaaagc taaagaagaa 480
gaacaacaaa aagaacaaaa aagacatcaa gaagagcaac aaagaaaagc taaagcagaa 540
aaagaaaaaa gagaaagaga agaggcagaa caacaaaaaac gacaacaaga agaggaagaa 600
aaaaggcaag ttgataacca aattaaaaca cttatagcta aaatagatga gatcaatgaa 660
aatattgatg ttataaaatg gcaaacgact gtaggcccac aaggcgTtat agatagaatt 720
actgggcctg tgtatgatga ttttaccat. ggcaataatt ctatacgcg aacttgggag 780
gggttagaag aggaatcaga agacgaagga ttaggaaaaat tattgaaaga attgagtgat 840
gctagggacg cgctaagaac taaattaaat gaaggcaata aaccatatac tgggttacgaa 900
gagcctaagt taaaagaaaag tgtaaatgtt agcgaaatta aagaagattt agaaaaatta 960
aatcaaaaat tagaagaagt taaaaaatat cttaaagata gttctaaatt tgaagaaatt 1020
aaaggataca tcagtgaacg tcagtaa 1047

```

&lt;210&gt; 669

&lt;211&gt; 979

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 669

```

ttgcaagaat tttgcaactg gtaaagatat aaaacaaaat tcagaaggga aaattaaagg 60
atttgtaaAT aagatttttag atccagtaaa ggataaaatt gcttcaagtG gtacaaaagt 120
agatgaagta gcaaaaaaat tacaagaaga agaaaaagaa gaattaatgc agggcgatga 180
tcctaattggc agtggaaata atccgccacc agtattgccg gaaaatattc acaataatgc 240
attagtatta aaagcaatag aacaaagtga tgggtcaacaa gaaaaaaaag tagaagaagc 300
tgaagctaaa gttgaagaaa ataaagaaaa acaagagaat acagaagaaa acattaaaga 360
aaaagaaata atagacgaac aaaacaaaca agaattagct aaagctaaag aagaagaaca 420

```



```

acaaaaagaa caaaaaagac atcaagaaga gcaacaaaga aaagctaaag cagaaaaaga 480
aaaaagagaa agagaagagg cagaacaaca aaaacgacaa caagaagagg aagaaaaaag 540
gcaagttgat aaccaaatta aaacacttat agctaaaata gatgagatca atgaaaatat 600
tgatgttata aaatggcaaa cgactgtagg ccacaaaggg gttatagata gaattactgg 660
gcctgtgtat gatgatttta ccaatggcaa taattctata cgcgaaactt gggagggggt 720
agaagaggaa tcagaagacg aaggattagg aaaattattg aaagaattga gtgatgctag 780
ggacgcgcta agaactaaat taaatgaagg caataaacca tatactgggtt acgaagagcc 840
taagttaaaa gaaagtgtaa atgttagcga aattaaagaa gatttagaaa aattaaatc 900
aaaattagaa gaagttaaaa aatatcttaa agatagttct aaatttgaag aaattaaagg 960
atacatcagt gacagtcag 979

```

<210> 670

<211> 347

<212> PRT

<213> Homo sapiens

<400> 670

```

Glu Arg Ile Ile Met Asn Lys Lys Thr Leu Ile Ile Cys Ala Val Phe
  1             5             10             15

```

```

Ala Leu Ile Ile Ser Cys Lys Asn Phe Ala Thr Gly Lys Asp Ile Lys
      20             25             30

```

```

Gln Asn Ser Glu Gly Lys Ile Lys Gly Phe Val Asn Lys Ile Leu Asp
      35             40             45

```

```

Pro Val Lys Asp Lys Ile Ala Ser Ser Gly Thr Lys Val Asp Glu Val
      50             55             60

```

```

Ala Lys Lys Leu Gln Glu Glu Glu Lys Glu Glu Leu Met Gln Gly Asp
      65             70             75             80

```

```

Asp Pro Asn Gly Ser Gly Ile Asn Pro Pro Pro Val Leu Pro Glu Asn
      85             90             95

```

```

Ile His Asn Asn Ala Leu Val Leu Lys Ala Ile Glu Gln Ser Asp Gly
      100            105            110

```

```

Gln Gln Glu Lys Lys Val Glu Glu Ala Glu Ala Lys Val Glu Glu Asn
      115            120            125

```

```

Lys Glu Lys Gln Glu Asn Thr Glu Glu Asn Ile Lys Glu Lys Glu Ile
      130            135            140

```

```

Ile Asp Glu Gln Asn Lys Gln Glu Leu Ala Lys Ala Lys Glu Glu Glu
      145            150            155            160

```

```

Gln Gln Lys Glu Gln Lys Arg His Gln Glu Glu Gln Gln Arg Lys Ala
      165            170            175

```

```

Lys Ala Glu Lys Glu Lys Arg Glu Arg Glu Glu Ala Glu Gln Gln Lys
      180            185            190

```

```

Arg Gln Gln Glu Glu Glu Glu Lys Arg Gln Val Asp Asn Gln Ile Lys
      195            200            205

```

```

Thr Leu Ile Ala Lys Ile Asp Glu Ile Asn Glu Asn Ile Asp Val Ile
      210            215            220

```

Lys Trp Gln Thr Thr Val Gly Pro Gln Gly Val Ile Asp Arg Ile Thr  
225 230 235 240

Gly Pro Val Tyr Asp Asp Phe Thr Asn Gly Asn Asn Ser Ile Arg Glu  
245 250 255

Thr Trp Glu Gly Leu Glu Glu Glu Ser Glu Asp Glu Gly Leu Gly Lys  
260 265 270

Leu Leu Lys Glu Leu Ser Asp Ala Arg Asp Ala Leu Arg Thr Lys Leu  
275 280 285

Asn Glu Gly Asn Lys Pro Tyr Thr Gly Tyr Glu Glu Pro Lys Leu Lys  
290 295 300

Glu Ser Val Asn Val Ser Glu Ile Lys Glu Asp Leu Glu Lys Leu Lys  
305 310 315 320

Ser Lys Leu Glu Glu Val Lys Lys Tyr Leu Lys Asp Ser Ser Lys Phe  
325 330 335

Glu Glu Ile Lys Gly Tyr Ile Ser Asp Ser Gln  
340 345

<210> 671

<211> 326

<212> PRT

<213> Homo sapiens

<400> 671

Cys Lys Asn Phe Ala Thr Gly Lys Asp Ile Lys Gln Asn Ser Glu Gly  
1 5 10 15

Lys Ile Lys Gly Phe Val Asn Lys Ile Leu Asp Pro Val Lys Asp Lys  
20 25 30

Ile Ala Ser Ser Gly Thr Lys Val Asp Glu Val Ala Lys Lys Leu Gln  
35 40 45

Glu Glu Glu Lys Glu Glu Leu Met Gln Gly Asp Asp Pro Asn Gly Ser  
50 55 60

Gly Ile Asn Pro Pro Pro Val Leu Pro Glu Asn Ile His Asn Asn Ala  
65 70 75 80

Leu Val Leu Lys Ala Ile Glu Gln Ser Asp Gly Gln Gln Glu Lys Lys  
85 90 95

Val Glu Glu Ala Glu Ala Lys Val Glu Glu Asn Lys Glu Lys Gln Glu  
100 105 110

Asn Thr Glu Glu Asn Ile Lys Glu Lys Glu Ile Ile Asp Glu Gln Asn  
115 120 125

Lys Gln Glu Leu Ala Lys Ala Lys Glu Glu Glu Gln Gln Lys Glu Gln  
130 135 140

Lys Arg His Gln Glu Glu Gln Gln Arg Lys Ala Lys Ala Glu Lys Glu  
145 150 155 160

Lys Arg Glu Arg Glu Glu Ala Glu Gln Gln Lys Arg Gln Gln Glu Glu  
165 170 175

Glu Glu Lys Arg Gln Val Asp Asn Gln Ile Lys Thr Leu Ile Ala Lys  
180 185 190

Ile Asp Glu Ile Asn Glu Asn Ile Asp Val Ile Lys Trp Gln Thr Thr  
195 200 205

Val Gly Pro Gln Gly Val Ile Asp Arg Ile Thr Gly Pro Val Tyr Asp  
210 215 220

Asp Phe Thr Asn Gly Asn Asn Ser Ile Arg Glu Thr Trp Glu Gly Leu  
225 230 235 240

Glu Glu Glu Ser Glu Asp Glu Gly Leu Gly Lys Leu Leu Lys Glu Leu  
245 250 255

Ser Asp Ala Arg Asp Ala Leu Arg Thr Lys Leu Asn Glu Gly Asn Lys  
260 265 270

Pro Tyr Thr Gly Tyr Glu Glu Pro Lys Leu Lys Glu Ser Val Asn Val  
275 280 285

Ser Glu Ile Lys Glu Asp Leu Glu Lys Leu Lys Ser Lys Leu Glu Glu  
290 295 300

Val Lys Lys Tyr Leu Lys Asp Ser Ser Lys Phe Glu Glu Ile Lys Gly  
305 310 315 320

Tyr Ile Ser Asp Ser Gln  
325

<210> 672

<211> 522

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (506)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (510)

<223> n equals a,t,g, or c

<400> 672

tgaatattaa taataaaaaa aggagtaaca atgaaaatca tcaacatatt attttgtata 60  
tctttgctac tactaaatag ctgtaattcc aatgataatg acactttaaa aaacaatgcc 120  
caacaaacaa aaagcaggaa aaaacgtgat ttaagccaag aagaactgcc acaacaagaa 180  
aaaatcactt taacatccga cgaagaaaaa atgtttactt cattaatcaa tgtgttttaa 240  
tacacaattg aaaaattaaa caatgaaata caagggtgca tgaatggaaa caaaagtaaa 300  
tgtaatgact tctttgattg gctttctgaa gatattcaaa aacaaaaaga attagctggt 360

gctttttacca aggttttaca cttctttaaaa tcaaaagcac aaaatgaaac ttttgatact 420  
 tatattaaag gagctattga ttgtaaaaaa aacactccac aagattgtaa taaaaataat 480  
 gaaatatggg gaggtggaca acttantagn gcaatatttt ag 522

<210> 673

<211> 403

<212> DNA

<213> Homo sapiens

<400> 673

ctgtaattcc aatgataatg acacttttaaa aaacaatgcc caacaaacaa aaagcaggaa 60  
 aaaacgtgat ttaagccaag aagaactgcc acaacaagaa aaaatcactt taacatccga 120  
 cgaagaaaaa atgtttactt cattaatcaa tgtgttttaa tacacaattg aaaaattaaa 180  
 caatgaaata caaggggtgca tgaatggaaa caaaagttaa tgtaatgact tctttgattg 240  
 gctttctgaa gatattcaaa aacaaaaaga attagctggg gctttttacca aggttttaca 300  
 cttctttaaaa tcaaaagcac aaaatgaaac ttttgatact tatattaaag gagctattga 360  
 ttgtaaaaaa aacactccac aagattgtaa taaaaataat gaa 403

<210> 674

<211> 172

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (168)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (169)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 674

Ile Leu Ile Ile Lys Lys Gly Val Thr Met Lys Ile Ile Asn Ile Leu  
 1 5 10 15

Phe Cys Ile Ser Leu Leu Leu Leu Asn Ser Cys Asn Ser Asn Asp Asn  
 20 25 30

Asp Thr Leu Lys Asn Asn Ala Gln Gln Thr Lys Ser Arg Lys Lys Arg  
 35 40 45

Asp Leu Ser Gln Glu Glu Leu Pro Gln Gln Glu Lys Ile Thr Leu Thr  
 50 55 60

Ser Asp Glu Glu Lys Met Phe Thr Ser Leu Ile Asn Val Phe Lys Tyr  
 65 70 75 80

Thr Ile Glu Lys Leu Asn Asn Glu Ile Gln Gly Cys Met Asn Gly Asn  
 85 90 95

Lys Ser Lys Cys Asn Asp Phe Phe Asp Trp Leu Ser Glu Asp Ile Gln  
 100 105 110

Lys Gln Lys Glu Leu Ala Gly Ala Phe Thr Lys Val Tyr Asn Phe Leu  
 115 120 125

Lys Ser Lys Ala Gln Asn Glu Thr Phe Asp Thr Tyr Ile Lys Gly Ala  
 130 135 140

Ile Asp Cys Lys Lys Asn Thr Pro Gln Asp Cys Asn Lys Asn Asn Glu  
 145 150 155 160

Ile Trp Gly Gly Gly Gln Leu Xaa Xaa Ala Ile Phe  
 165 170

<210> 675

<211> 134

<212> PRT

<213> Homo sapiens

<400> 675

Cys Asn Ser Asn Asp Asn Asp Thr Leu Lys Asn Asn Ala Gln Gln Thr  
 1 5 10 15

Lys Ser Arg Lys Lys Arg Asp Leu Ser Gln Glu Glu Leu Pro Gln Gln  
 20 25 30

Glu Lys Ile Thr Leu Thr Ser Asp Glu Glu Lys Met Phe Thr Ser Leu  
 35 40 45

Ile Asn Val Phe Lys Tyr Thr Ile Glu Lys Leu Asn Asn Glu Ile Gln  
 50 55 60

Gly Cys Met Asn Gly Asn Lys Ser Lys Cys Asn Asp Phe Phe Asp Trp  
 65 70 75 80

Leu Ser Glu Asp Ile Gln Lys Gln Lys Glu Leu Ala Gly Ala Phe Thr  
 85 90 95

Lys Val Tyr Asn Phe Leu Lys Ser Lys Ala Gln Asn Glu Thr Phe Asp  
 100 105 110

Thr Tyr Ile Lys Gly Ala Ile Asp Cys Lys Lys Asn Thr Pro Gln Asp  
 115 120 125

Cys Asn Lys Asn Asn Glu  
 130

<210> 676

<211> 1605

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (1535)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (1567)

<223> n equals a,t,g, or c

<220>

<221> misc feature  
 <222> (1571)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1593)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1594)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (1599)  
 <223> n equals a,t,g, or c

<400> 676  
 taaatgttca aaacaatcat taaacaaaaa aatatgaaaa aaatttcaag tgcaatttta 60  
 ttaacaactt tctttgtttt tattaattgt aaaagccaag ttgctgataa ggcgagtgtg 120  
 acggggattg ctaagggaat aaaggagatt gttgaagctg ctggggggag tgaaaagctg 180  
 aaagtgtctg ctgctgaagg ggagaataat gaaaaggcag ggaagttgtt tgggaaggct 240  
 ggtgctggta atgctgggga cagtgaggct gctagcaagg cggctggtgc tgtagtgct 300  
 gttagtgggg agcagatatt aagtgcgatt gttaaggctg ctggtgaggc tgcgcaggat 360  
 ggagagaagc ctggggaggc taaaaatccg attgctgctg ctattgggaa gggtaatgag 420  
 gatggtgcgg agtttaagga tgagatgaag aaggatgatc agattgctgc tgctattgct 480  
 ttgaggggga tggctaagga tggaaagttt gctgtgaaga atgatgagaa aggggaaggct 540  
 gagggggcta ttaagggagc tggcgagttg ttggataagc tggtaaaagc tgtaaagaca 600  
 gctgaggggg cttcaagtgg tactgctgca attggagaag ttgtggctga tgataatgct 660  
 gcgaaggttg ctgataaggc gagtgtgaag gggattgcta aggggataaa ggagattggt 720  
 gaagctgctg gggggagtaa aaagctgaaa gttgctgctg ctaaagaggg caatgaaaag 780  
 gcagggaagt tgtttgggaa agttgatgct gctcatgctg gggacagtga ggctgctagc 840  
 aaggcggctg gtgctgttag tgctgttagt ggggagcaga tattaagtgc gattgttaag 900  
 gctgctggtg cggctgctgg tgatcaggag ggaaagaagc ctggggatgc taaaaatccg 960  
 attgctgctg ctattgggaa gggatgctgc gagaatgggt cggagtttaa tcatgatggg 1020  
 atgaagaagg atgatcagat tgctgctgct attgctttga gggggatggc taaggatgga 1080  
 aagtttctg tgaagagtgg tgggtggtgag aaaggggaag ctgagggggc tattaaggga 1140  
 gctgctgagt tgttgataaa gctggtaaaa gctgtaaaaga cagctgaggg ggcttcaagt 1200  
 ggtactgatg caattggaga agttgtggct aatgctggtg ctgcaaaggt tgctgataag 1260  
 gcgagtgtga cggggattgc taaggggata aaggagattg ttgaagctgc tggggggagt 1320  
 gaaaagctga aagttgctgc tgctacaggg gagagtaata aaggggcagg gaagttgttt 1380  
 gggaaggctg gtgctggtgc taatgctggg gacagtgagg ctgctagcaa ggcggctggt 1440  
 gctgttagtg ctgttagtgg ggagcagata ttaagtgcga ttgttaaggc tgctgatgctg 1500  
 gctgatcagg agggaaagaa gcctggggat gctanaaatc cgattgctgc tgctattggg 1560  
 aagggtnatg nggagaatgg tgcggagttt aannatgang gatga 1605

<210> 677  
 <211> 469  
 <212> DNA  
 <213> Homo sapiens

<400> 677  
 ttgtaaaagc caagttgctg ataaggcgag tgtgacgggg attgctaagg gaataaagga 60  
 gattgttgaa gctgctgggg ggagtgaata gctgaaagtt gctgctgctg aaggggagaa 120  
 taatgaaaag gcagggaagt tgtttgggaa ggctggtgct ggtaattgctg gggacagtga 180  
 ggctgctagc aaggcggctg gtgctgttag tgctgttagt ggggagcaga tattaagtgc 240

```

gattgttaag gctgctggtg aggctgcgca ggatggagag aagcctgggg aggctaaaaa 300
tccgattgct gctgctattg ggaagggtaa tgaggatggt gcggagttta aggatgagat 360
gaagaaggat gatcagattg ctgctgctat tgctttgagg gggatggcta aggatggaaa 420
gtttgctgtg aagaatgatg agaaaggga ggctgagggg gctattaag 469

```

<210> 678

<211> 533

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (511)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (522)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (523)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (530)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (531)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (532)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 678

```

Met Phe Lys Thr Ile Ile Lys Gln Lys Asn Met Lys Lys Ile Ser Ser
  1           5           10           15

```

```

Ala Ile Leu Leu Thr Thr Phe Phe Val Phe Ile Asn Cys Lys Ser Gln
      20           25           30

```

```

Val Ala Asp Lys Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu
      35           40           45

```

```

Ile Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys Val Ala Ala Ala
      50           55           60

```

```

Glu Gly Glu Asn Asn Glu Lys Ala Gly Lys Leu Phe Gly Lys Ala Gly
      65           70           75           80

```

```

Ala Gly Asn Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala
      85           90           95

```

Val	Ser	Ala	Val	Ser	Gly	Glu	Gln	Ile	Leu	Ser	Ala	Ile	Val	Lys	Ala		
			100					105					110				
Ala	Gly	Glu	Ala	Ala	Gln	Asp	Gly	Glu	Lys	Pro	Gly	Glu	Ala	Lys	Asn		
		115					120					125					
Pro	Ile	Ala	Ala	Ala	Ile	Gly	Lys	Gly	Asn	Glu	Asp	Gly	Ala	Glu	Phe		
	130					135					140						
Lys	Asp	Glu	Met	Lys	Lys	Asp	Asp	Gln	Ile	Ala	Ala	Ala	Ile	Ala	Leu		
145					150					155					160		
Arg	Gly	Met	Ala	Lys	Asp	Gly	Lys	Phe	Ala	Val	Lys	Asn	Asp	Glu	Lys		
				165					170					175			
Gly	Lys	Ala	Glu	Gly	Ala	Ile	Lys	Gly	Ala	Gly	Glu	Leu	Leu	Asp	Lys		
		180						185					190				
Leu	Val	Lys	Ala	Val	Lys	Thr	Ala	Glu	Gly	Ala	Ser	Ser	Gly	Thr	Ala		
		195					200					205					
Ala	Ile	Gly	Glu	Val	Val	Ala	Asp	Asp	Asn	Ala	Ala	Lys	Val	Ala	Asp		
	210					215					220						
Lys	Ala	Ser	Val	Lys	Gly	Ile	Ala	Lys	Gly	Ile	Lys	Glu	Ile	Val	Glu		
225					230					235					240		
Ala	Ala	Gly	Gly	Ser	Lys	Lys	Leu	Lys	Val	Ala	Ala	Ala	Lys	Glu	Gly		
				245					250					255			
Asn	Glu	Lys	Ala	Gly	Lys	Leu	Phe	Gly	Lys	Val	Asp	Ala	Ala	His	Ala		
			260					265					270				
Gly	Asp	Ser	Glu	Ala	Ala	Ser	Lys	Ala	Ala	Gly	Ala	Val	Ser	Ala	Val		
		275					280					285					
Ser	Gly	Glu	Gln	Ile	Leu	Ser	Ala	Ile	Val	Lys	Ala	Ala	Gly	Ala	Ala		
	290					295					300						
Ala	Gly	Asp	Gln	Glu	Gly	Lys	Lys	Pro	Gly	Asp	Ala	Lys	Asn	Pro	Ile		
305					310					315				320			
Ala	Ala	Ala	Ile	Gly	Lys	Gly	Asp	Ala	Glu	Asn	Gly	Ala	Glu	Phe	Asn		
				325					330					335			
His	Asp	Gly	Met	Lys	Lys	Asp	Asp	Gln	Ile	Ala	Ala	Ala	Ile	Ala	Leu		
			340					345					350				
Arg	Gly	Met	Ala	Lys	Asp	Gly	Lys	Phe	Ala	Val	Lys	Ser	Gly	Gly	Gly		
		355					360					365					
Glu	Lys	Gly	Lys	Ala	Glu	Gly	Ala	Ile	Lys	Gly	Ala	Ala	Glu	Leu	Leu		
	370					375					380						
Asp	Lys	Leu	Val	Lys	Ala	Val	Lys	Thr	Ala	Glu	Gly	Ala	Ser	Ser	Gly		
385					390					395					400		



Thr Asp Ala Ile Gly Glu Val Val Ala Asn Ala Gly Ala Ala Lys Val  
405 410 415

Ala Asp Lys Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile  
420 425 430

Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Thr  
435 440 445

Gly Glu Ser Asn Lys Gly Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala  
450 455 460

Gly Ala Asn Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala  
465 470 475 480

Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala  
485 490 495

Ala Asp Ala Ala Asp Gln Glu Gly Lys Lys Pro Gly Asp Ala Xaa Asn  
500 505 510

Pro Ile Ala Ala Ala Ile Gly Lys Gly Xaa Xaa Glu Asn Gly Ala Glu  
515 520 525

Phe Xaa Xaa Xaa Gly  
530

<210> 679

<211> 156

<212> PRT

<213> Homo sapiens

<400> 679

Cys Lys Ser Gln Val Ala Asp Lys Ala Ser Val Thr Gly Ile Ala Lys  
1 5 10 15

Gly Ile Lys Glu Ile Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys  
20 25 30

Val Ala Ala Ala Glu Gly Glu Asn Asn Glu Lys Ala Gly Lys Leu Phe  
35 40 45

Gly Lys Ala Gly Ala Gly Asn Ala Gly Asp Ser Glu Ala Ala Ser Lys  
50 55 60

Ala Ala Gly Ala Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala  
65 70 75 80

Ile Val Lys Ala Ala Gly Glu Ala Ala Gln Asp Gly Glu Lys Pro Gly  
85 90 95

Glu Ala Lys Asn Pro Ile Ala Ala Ala Ile Gly Lys Gly Asn Glu Asp  
100 105 110

Gly Ala Glu Phe Lys Asp Glu Met Lys Lys Asp Asp Gln Ile Ala Ala  
115 120 125

Ala Ile Ala Leu Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys

130

135

140

Asn Asp Glu Lys Gly Lys Ala Glu Gly Ala Ile Lys  
 145 150 155

<210> 680  
 <211> 1125  
 <212> DNA  
 <213> Homo sapiens

<400> 680  
 tagaaattca aaacaaagga gaaaacaaaa agtatgaata aaaaaatatt gattatttttt 60  
 gctgtttttg cacttataat ttcttgtaaa aattatgcaa ctggtaaaga tataaaacaa 120  
 aatgcaaaag ggaaaattaa aggattttta gataaggttt tagatccagc aaaagataaa 180  
 attactttca gtagttcaaa agtagatgaa ttagcaaaaa aattacaaga agaagatgaa 240  
 gataatgaat taatgcaggg cgatgatcct aataacagag caatagcact gttaccagta 300  
 ttgccggaaa atagtcatga caatccacca gtacccaaaag taaaagcagc agcacaaaagt 360  
 ggtggtcaac aagaagacca aaaagcaaaa gaatctaaag ataaagttga ggaagaaaaa 420  
 gaagttgtag aggagaaaaa agaagaacaa gatagtaaaa aagaaaaagt ggagaagcaa 480  
 agtcaaaagc aaaaagaaga agagagaaac tctaaagaag aacaacaaaa acaagaagaa 540  
 gcaaaagcta gagcagatag agaaaagaaa gaacgactaa aacaacaaga acaaaaaaga 600  
 caacaggaag aagctaggggt taaagcagaa aaagaaaaac aagaaagaga ggaacaacaa 660  
 aaacaagaag aagaaaaaga agttaaatat aaaattaaaa cacttacaga caaaatagat 720  
 gaaataaata aggatattga tggataaaat ggtaaaacaa ttgtaggagc agaagaagtt 780  
 atagataaaa ttacggggcc tgtatatgat gattttactg atgggaataa agctatatac 840  
 aaaacttggg gagattttaga ggatgaagaa ggcaagaat taggaaaatt attgaaagaa 900  
 ttgagtgata ctagacataa ttaagaacc aaattaaatg agggtaataa agcatatatt 960  
 gttctagaaa aggagcctaa tttaaaagaa aatgtaaatg ttagtgatat tcaatcagat 1020  
 ttagaaaaat taaaatcagg attagaagaa gttaaaaaat attttgaaa tgaagataat 1080  
 tttgaagaaa ttaaaggata cattgaggat agtaattcat attga 1125

<210> 681  
 <211> 1039  
 <212> DNA  
 <213> Homo sapiens

<400> 681  
 ttgtaaaaat tatgcaactg gtaaagatat aaaacaaaaat gcaaaagggg aaatttaaagg 60  
 atttttagat aagggttttag atccagcaaa agataaaatt acttcaagta gttcaaaagt 120  
 agatgaatta gcaaaaaaat tacaagaaga agatgaagat aatgaattaa tgcagggcga 180  
 tgatcctaata aacagagcaa tagcactggt accagtattg ccggaaaata gtcatgacaa 240  
 tccaccagta ccaaaagtaa aagcagcagc acaaaagtggg ggtcaacaag aagaccaaaa 300  
 agcaaaagaa tctaaagata aagttgagga agaaaaagaa gttgtagagg agaaaaaaga 360  
 agaacaagat agtaaaaaag aaaaagtggg gaagcaaaagt caaaagcaaa aagaagaaga 420  
 gagaaactct aaagaagaac acaaaaaaca agaagaagca aaagctagag cagatagaga 480  
 aagagaagaa cgactaaaac aacaagaaca aaaaagacaa caggaagaag ctagggttaa 540  
 agcagaaaaa gaaaaacaag aaagagagga acaacaaaaa caagaagaag aaaagaaagt 600  
 taaatataaa attaaaacac ttacagacaa aatagatgaa ataaataagg atattgatgg 660  
 tataaatggt aaaacaattg taggagcaga agaagttata gataaaatta cggggcctgt 720  
 atatgatgat tttactgatg ggaataaagc tatatacaaa acttggggag atttagagga 780  
 tgaagaaggc gaagaattag gaaaattatt gaaagaattg agtgatacta gacataattt 840  
 aagaaccaa tttaatgagg gtaataaagc atatattgtt ctagaaaagg agcctaattt 900  
 aaaagaaaaat gtaaatgtta gtgatattca atcagattta gaaaaattaa aatcaggatt 960  
 agaagaagtt aaaaaatatt ttgaaaatga agataatttt gaagaaatta aaggatacat 1020  
 tgaggatagt aattcatat 1039

<210> 682  
 <211> 373

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 682

Lys Phe Lys Thr Lys Glu Lys Thr Lys Ser Met Asn Lys Lys Ile Leu  
 1 5 10 15

Ile Ile Phe Ala Val Phe Ala Leu Ile Ile Ser Cys Lys Asn Tyr Ala  
 20 25 30

Thr Gly Lys Asp Ile Lys Gln Asn Ala Lys Gly Lys Ile Lys Gly Phe  
 35 40 45

Leu Asp Lys Val Leu Asp Pro Ala Lys Asp Lys Ile Thr Ser Ser Ser  
 50 55 60

Ser Lys Val Asp Glu Leu Ala Lys Lys Leu Gln Glu Glu Asp Glu Asp  
 65 70 75 80

Asn Glu Leu Met Gln Gly Asp Asp Pro Asn Asn Arg Ala Ile Ala Leu  
 85 90 95

Leu Pro Val Leu Pro Glu Asn Ser His Asp Asn Pro Pro Val Pro Lys  
 100 105 110

Val Lys Ala Ala Ala Gln Ser Gly Gly Gln Gln Glu Asp Gln Lys Ala  
 115 120 125

Lys Glu Ser Lys Asp Lys Val Glu Glu Glu Lys Glu Val Val Glu Glu  
 130 135 140

Lys Lys Glu Glu Gln Asp Ser Lys Lys Glu Lys Val Glu Lys Gln Ser  
 145 150 155 160

Gln Lys Gln Lys Glu Glu Glu Arg Asn Ser Lys Glu Glu Gln Gln Lys  
 165 170 175

Gln Glu Glu Ala Lys Ala Arg Ala Asp Arg Glu Arg Glu Glu Arg Leu  
 180 185 190

Lys Gln Gln Glu Gln Lys Arg Gln Gln Glu Glu Ala Arg Val Lys Ala  
 195 200 205

Glu Lys Glu Lys Gln Glu Arg Glu Glu Gln Gln Lys Gln Glu Glu Glu  
 210 215 220

Lys Lys Val Lys Tyr Lys Ile Lys Thr Leu Thr Asp Lys Ile Asp Glu  
 225 230 235 240

Ile Asn Lys Asp Ile Asp Gly Ile Asn Gly Lys Thr Ile Val Gly Ala  
 245 250 255

Glu Glu Val Ile Asp Lys Ile Thr Gly Pro Val Tyr Asp Asp Phe Thr  
 260 265 270

Asp Gly Asn Lys Ala Ile Tyr Lys Thr Trp Gly Asp Leu Glu Asp Glu  
 275 280 285

Glu Gly Glu Glu Leu Gly Lys Leu Leu Lys Glu Leu Ser Asp Thr Arg  
290 295 300

His Asn Leu Arg Thr Lys Leu Asn Glu Gly Asn Lys Ala Tyr Ile Val  
305 310 315 320

Leu Glu Lys Glu Pro Asn Leu Lys Glu Asn Val Asn Val Ser Asp Ile  
325 330 335

Gln Ser Asp Leu Glu Lys Leu Lys Ser Gly Leu Glu Glu Val Lys Lys  
340 345 350

Tyr Phe Glu Asn Glu Asp Asn Phe Glu Glu Ile Lys Gly Tyr Ile Glu  
355 360 365

Asp Ser Asn Ser Tyr  
370

<210> 683

<211> 346

<212> PRT

<213> Homo sapiens

<400> 683

Cys Lys Asn Tyr Ala Thr Gly Lys Asp Ile Lys Gln Asn Ala Lys Gly  
1 5 10 15

Lys Ile Lys Gly Phe Leu Asp Lys Val Leu Asp Pro Ala Lys Asp Lys  
20 25 30

Ile Thr Ser Ser Ser Ser Lys Val Asp Glu Leu Ala Lys Lys Leu Gln  
35 40 45

Glu Glu Asp Glu Asp Asn Glu Leu Met Gln Gly Asp Asp Pro Asn Asn  
50 55 60

Arg Ala Ile Ala Leu Leu Pro Val Leu Pro Glu Asn Ser His Asp Asn  
65 70 75 80

Pro Pro Val Pro Lys Val Lys Ala Ala Ala Gln Ser Gly Gly Gln Gln  
85 90 95

Glu Asp Gln Lys Ala Lys Glu Ser Lys Asp Lys Val Glu Glu Glu Lys  
100 105 110

Glu Val Val Glu Glu Lys Lys Glu Glu Gln Asp Ser Lys Lys Glu Lys  
115 120 125

Val Glu Lys Gln Ser Gln Lys Gln Lys Glu Glu Glu Arg Asn Ser Lys  
130 135 140

Glu Glu Gln Gln Lys Gln Glu Glu Ala Lys Ala Arg Ala Asp Arg Glu  
145 150 155 160

Arg Glu Glu Arg Leu Lys Gln Gln Glu Gln Lys Arg Gln Gln Glu Glu  
165 170 175

Ala Arg Val Lys Ala Glu Lys Glu Lys Gln Glu Arg Glu Glu Gln Gln

										180										185										190				
Lys	Gln	Glu	Glu	Glu	Lys	Lys	Val	Lys	Tyr	Lys	Ile	Lys	Thr	Leu	Thr																			
		195						200				205																						
Asp	Lys	Ile	Asp	Glu	Ile	Asn	Lys	Asp	Ile	Asp	Gly	Ile	Asn	Gly	Lys																			
210						215						220																						
Thr	Ile	Val	Gly	Ala	Glu	Glu	Val	Ile	Asp	Lys	Ile	Thr	Gly	Pro	Val																			
225						230						235																						
Tyr	Asp	Asp	Phe	Thr	Asp	Gly	Asn	Lys	Ala	Ile	Tyr	Lys	Thr	Trp	Gly																			
				245						250				255																				
Asp	Leu	Glu	Asp	Glu	Glu	Gly	Glu	Glu	Leu	Gly	Lys	Leu	Leu	Lys	Glu																			
		260						265				270																						
Leu	Ser	Asp	Thr	Arg	His	Asn	Leu	Arg	Thr	Lys	Leu	Asn	Glu	Gly	Asn																			
		275						280				285																						
Lys	Ala	Tyr	Ile	Val	Leu	Glu	Lys	Glu	Pro	Asn	Leu	Lys	Glu	Asn	Val																			
290						295						300																						
Asn	Val	Ser	Asp	Ile	Gln	Ser	Asp	Leu	Glu	Lys	Leu	Lys	Ser	Gly	Leu																			
305				310						315																								
Glu	Glu	Val	Lys	Lys	Tyr	Phe	Glu	Asn	Glu	Asp	Asn	Phe	Glu	Glu	Ile																			
				325						330				335																				
Lys	Gly	Tyr	Ile	Glu	Asp	Ser	Asn	Ser	Tyr																									
		340						345																										

```
<210> 684
<211> 696
<212> DNA
<213> Homo sapiens
```

<400>	684						
taacttatga	ataagaaaat	gaaaatgttt	attatattgtg	ctgttttttgc	attgatgatt	60	
tcttgcaaga	attatgcaag	tgggtgaaaat	ctaaaaaaatt	cagaacaaaa	tctagaaagt	120	
tcagaacaaa	atgtaaaaaa	aacagaacaa	gagataaaaa	aacaagttga	aggattttta	180	
gaaattctag	agacaaaaag	tttatctaaa	ttagatgaaa	aagatacaaa	agaaattgaa	240	
aaaaaaattc	aagaattaaa	gaataaaaaa	gaaaaatttag	attctaaaaa	aacttctatt	300	
gaaacatatt	ctgagtatga	agaaaaaata	aacaaaaata	aagaaaaatt	gaaaggaaaa	360	
ggacttgaag	ataaatttaa	ggagcttgaa	gagagtttag	caaagaaaaa	gggggagaga	420	
aaaaaaagctt	tacaagaggc	caaacagaaa	tttgaagaat	ataaaaaaca	agtagatact	480	
tcaactggga	aaactcaagg	cgacaggtct	aaaaaccgag	gtggtgttgg	agtgcaagct	540	
tggcagtgtg	ccaatgaatt	aggtttgggt	gtaagttatt	ctaattggcg	cagtgacaac	600	
agcaatactg	atgaattagc	aaacaaagtt	atagatgatt	ctcttaaaaa	gattgaagaa	660	
gaacttaacg	gaatagaaga	agataaaaaa	gaataa			696	

```
<210> 685
<211> 631
<212> DNA
<213> Homo sapiens
```

<400> 685  
ttgcaagaat tatgcaagtg gtgaaaatct aaaaaattca gaacaaaatc tagaaagttc 60

```

agaacaaaat gtaaaaaaaaaa cagaacaaga gataaaaaaaaa caagttgaag gatttttaga 120
aattctagag acaaaaagatt tatctaaatt agatgaaaaa gatacaaaaag aaattgaaaa 180
acaaattcaa gaatttaaaga ataaaataga aaaattagat tctaaaaaaa cttctattga 240
aacatattct gagtatgaag aaaaaataaa caaaataaaa gaaaaattga aaggaaaagg 300
acttgaagat aaatttaagg agcttgaaga gagtttagca aagaaaaagg gggagagaaa 360
aaaagcttta caagaggcca aacagaaatt tgaagaatat aaaaaacaag tagatacttc 420
aactgggaaa actcaaggcg acaggtctaa aaaccgaggt ggtggttgag tgcaagcttg 480
gcagtgtgcc aatgaattag gtttggtgt aagttattct aatggcggca gtgacaacag 540
caatactgat gaattagcaa acaaagttat agatgattct cttaaaaaga ttgaagaaga 600
acttaaggga atagaagaag ataaaaaaga a 631

```

<210> 686

<211> 230

<212> PRT

<213> Homo sapiens

<400> 686

```

Leu Met Asn Lys Lys Met Lys Met Phe Ile Ile Cys Ala Val Phe Ala
  1             5             10             15

```

```

Leu Met Ile Ser Cys Lys Asn Tyr Ala Ser Gly Glu Asn Leu Lys Asn
          20             25             30

```

```

Ser Glu Gln Asn Leu Glu Ser Ser Glu Gln Asn Val Lys Lys Thr Glu
          35             40             45

```

```

Gln Glu Ile Lys Lys Gln Val Glu Gly Phe Leu Glu Ile Leu Glu Thr
          50             55             60

```

```

Lys Asp Leu Ser Lys Leu Asp Glu Lys Asp Thr Lys Glu Ile Glu Lys
          65             70             75             80

```

```

Gln Ile Gln Glu Leu Lys Asn Lys Ile Glu Lys Leu Asp Ser Lys Lys
          85             90             95

```

```

Thr Ser Ile Glu Thr Tyr Ser Glu Tyr Glu Glu Lys Ile Asn Lys Ile
          100            105            110

```

```

Lys Glu Lys Leu Lys Gly Lys Gly Leu Glu Asp Lys Phe Lys Glu Leu
          115            120            125

```

```

Glu Glu Ser Leu Ala Lys Lys Lys Gly Glu Arg Lys Lys Ala Leu Gln
          130            135            140

```

```

Glu Ala Lys Gln Lys Phe Glu Glu Tyr Lys Lys Gln Val Asp Thr Ser
          145            150            155            160

```

```

Thr Gly Lys Thr Gln Gly Asp Arg Ser Lys Asn Arg Gly Gly Val Gly
          165            170            175

```

```

Val Gln Ala Trp Gln Cys Ala Asn Glu Leu Gly Leu Gly Val Ser Tyr
          180            185            190

```

```

Ser Asn Gly Gly Ser Asp Asn Ser Asn Thr Asp Glu Leu Ala Asn Lys
          195            200            205

```

```

Val Ile Asp Asp Ser Leu Lys Lys Ile Glu Glu Glu Leu Lys Gly Ile
          210            215            220

```

Glu Glu Asp Lys Lys Glu  
225 230

<210> 687  
<211> 210  
<212> PRT  
<213> Homo sapiens

<400> 687  
Cys Lys Asn Tyr Ala Ser Gly Glu Asn Leu Lys Asn Ser Glu Gln Asn  
1 5 10 15

Leu Glu Ser Ser Glu Gln Asn Val Lys Lys Thr Glu Gln Glu Ile Lys  
20 25 30

Lys Gln Val Glu Gly Phe Leu Glu Ile Leu Glu Thr Lys Asp Leu Ser  
35 40 45

Lys Leu Asp Glu Lys Asp Thr Lys Glu Ile Glu Lys Gln Ile Gln Glu  
50 55 60

Leu Lys Asn Lys Ile Glu Lys Leu Asp Ser Lys Lys Thr Ser Ile Glu  
65 70 75 80

Thr Tyr Ser Glu Tyr Glu Glu Lys Ile Asn Lys Ile Lys Glu Lys Leu  
85 90 95

Lys Gly Lys Gly Leu Glu Asp Lys Phe Lys Glu Leu Glu Glu Ser Leu  
100 105 110

Ala Lys Lys Lys Gly Glu Arg Lys Lys Ala Leu Gln Glu Ala Lys Gln  
115 120 125

Lys Phe Glu Glu Tyr Lys Lys Gln Val Asp Thr Ser Thr Gly Lys Thr  
130 135 140

Gln Gly Asp Arg Ser Lys Asn Arg Gly Gly Val Gly Val Gln Ala Trp  
145 150 155 160

Gln Cys Ala Asn Glu Leu Gly Leu Gly Val Ser Tyr Ser Asn Gly Gly  
165 170 175

Ser Asp Asn Ser Asn Thr Asp Glu Leu Ala Asn Lys Val Ile Asp Asp  
180 185 190

Ser Leu Lys Lys Ile Glu Glu Glu Leu Lys Gly Ile Glu Glu Asp Lys  
195 200 205

Lys Glu  
210

<210> 688  
<211> 1083  
<212> DNA  
<213> Homo sapiens

<400> 688

```

taattgtttg gggttgtggt aaacttaagg cttatggagt ggattatgaa taaaaaaatg 60
aaaatattta ttatttgtgc tgtatttgtg ctgataagtt cttgcaagat tgatgcaact 120
ggtaaagatg caactggtaa agatgcaact ggtaaagatg caactggtaa agatgcaact 180
ggtaaaaatg cagaacaaaa tataaaaggg aaagttcaag gattttttaga aaagatttta 240
gatccagtaa aggataaaat tgcttcaaat ggtccaatag cagatgaatt ggcaaaaaaa 300
ttacaagaag aagaaaagggt aaataacggg gaagaagaaa atgataaagc tgtcttttta 360
ggagaagaat caaaagagga tgaagaagaa aatgagcaag ctgttaattt agaagaaaaa 420
aatgcggaag aggataagaa agttgttaat ttagaagaga aagaattaga agttaaaaaa 480
gagactgaag aagatgaaga taaagaagaa atagagaaac aaaaacaaga agtggaaaaa 540
gcacaagaaa gaaaaacaacg acaagaagaa aagaacgaa aaaaacaaga acagcaagaa 600
gaaaagaaac gaaaacgaca agaacaaga aaagaaagga gagctaaaaa caaaatttaa 660
aaacttgcgg ataaaaataga tgagataagt tggaaatattg atggtataga aagtcaaaca 720
agtgtaaaac cgaaagcagt tatagataaa attacggggc ctgtatatga ttattttacc 780
gatgacaaca aaaaagctat atataaaaca tggggagatt tagaagatga agaaggcgaa 840
ggattgggaa aattattgaa agaattgagt gatactagag atgagttaag aaccaaaatta 900
aataaagata ataaaaaata ttatgcccac gaaaatgagc ctctctctaaa agaaaatgta 960
gatgtcagcg aaattaaaga agatttagaa aaagtaaaat caggattaga aaagggttaa 1020
gaatatctta aagacaattc taaatttgaa gaaattaaag gatacatcag ttacagtcag 1080
taa

```

<210> 689  
 <211> 979  
 <212> DNA  
 <213> Homo sapiens

```

<400> 689
ttgcaagatt gatgcaactg gtaaagatgc aactggtaaa gatgcaactg gtaaagatgc 60
aactggtaaa gatgcaactg gtaaaaatgc agaacaaaat ataaaaggga aagttcaagg 120
atTTTTtagaa aagatttttag atccagtaaa ggataaaaatt gcttcaaatt gtccaatagc 180
agatgaattg gcaaaaaaat tacaagaaga agaaaaggta aataacgggg aagaagaaaa 240
tgataaagct gtcttttttag gagaagaatc aaaagaggat gaagaagaaa atgagcaagc 300
tgttaattta gaagaaaaaa atgcggaaga ggataagaaa gttgttaatt tagaagagaa 360
agaattagaa gttaaaaaaag agactgaaga agatgaagat aaagaagaaa tagagaaaca 420
aaaacaagaa gtggaaaaaag cacaagaagag aaaacaacga caagaagaaa agaaacgaaa 480
aaaacaagaa cagcaagaag aaaagaaacg aaaacgacaa gaacaaagaa aagaaaggag 540
agctaaaaac aaaattaaaa aacttgcgga taaaatagat gagataagtt ggaatattga 600
tggtatagaa agtcaaacaa gtgtaaaacc gaaagcagtt atagataaaa ttacgggggcc 660
tgtatatgat tatTTTaccg atgacaacaa aaaagctata tataaaacat ggggagattt 720
agaagatgaa gaaggcgaag gattgggaaa attattgaaa gaattgagtg atactagaga 780
tgagttaaga accaaattaa ataaagataa taaaaaatat tatgcccacg aaaatgagcc 840
tcctctaaaa gaaaatgtag atgtcagcga aattaaagaa gatttagaaa aagtaaaatc 900
aggattagaa aagggttaaag aatatcttaa agacaattct aaatttgaag aaattaaagg 960
atacatcagt tacagtcag
979

```

<210> 690  
 <211> 359  
 <212> PRT  
 <213> Homo sapiens

```

<400> 690
Leu Phe Gly Val Val Asn Leu Arg Leu Met Glu Trp Ile Met Asn
  1             5             10            15
Lys Lys Met Lys Ile Phe Ile Ile Cys Ala Val Phe Val Leu Ile Ser
          20             25             30
Ser Cys Lys Ile Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asp Ala
      35             40             45

```



Thr Gly Lys Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asn Ala Glu  
 50 55 60  
 Gln Asn Ile Lys Gly Lys Val Gln Gly Phe Leu Glu Lys Ile Leu Asp  
 65 70 75 80  
 Pro Val Lys Asp Lys Ile Ala Ser Asn Gly Pro Ile Ala Asp Glu Leu  
 85 90 95  
 Ala Lys Lys Leu Gln Glu Glu Glu Lys Val Asn Asn Gly Glu Glu Glu  
 100 105 110  
 Asn Asp Lys Ala Val Phe Leu Gly Glu Glu Ser Lys Glu Asp Glu Glu  
 115 120 125  
 Glu Asn Glu Gln Ala Val Asn Leu Glu Glu Lys Asn Ala Glu Glu Asp  
 130 135 140  
 Lys Lys Val Val Asn Leu Glu Glu Lys Glu Leu Glu Val Lys Lys Glu  
 145 150 155 160  
 Thr Glu Glu Asp Glu Asp Lys Glu Glu Ile Glu Lys Gln Lys Gln Glu  
 165 170 175  
 Val Glu Lys Ala Gln Glu Arg Lys Gln Arg Gln Glu Glu Lys Lys Arg  
 180 185 190  
 Lys Lys Gln Glu Gln Gln Glu Glu Lys Lys Arg Lys Arg Gln Glu Gln  
 195 200 205  
 Arg Lys Glu Arg Arg Ala Lys Asn Lys Ile Lys Lys Leu Ala Asp Lys  
 210 215 220  
 Ile Asp Glu Ile Ser Trp Asn Ile Asp Gly Ile Glu Ser Gln Thr Ser  
 225 230 235 240  
 Val Lys Pro Lys Ala Val Ile Asp Lys Ile Thr Gly Pro Val Tyr Asp  
 245 250 255  
 Tyr Phe Thr Asp Asp Asn Lys Lys Ala Ile Tyr Lys Thr Trp Gly Asp  
 260 265 270  
 Leu Glu Asp Glu Glu Gly Glu Gly Leu Gly Lys Leu Leu Lys Glu Leu  
 275 280 285  
 Ser Asp Thr Arg Asp Glu Leu Arg Thr Lys Leu Asn Lys Asp Asn Lys  
 290 295 300  
 Lys Tyr Tyr Ala His Glu Asn Glu Pro Pro Leu Lys Glu Asn Val Asp  
 305 310 315 320  
 Val Ser Glu Ile Lys Glu Asp Leu Glu Lys Val Lys Ser Gly Leu Glu  
 325 330 335  
 Lys Val Lys Glu Tyr Leu Lys Asp Asn Ser Lys Phe Glu Glu Ile Lys  
 340 345 350

Gly Tyr Ile Ser Tyr Ser Gln  
355

<210> 691

<211> 326

<212> PRT

<213> Homo sapiens

<400> 691

Cys Lys Ile Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asp Ala Thr  
1 5 10 15

Gly Lys Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asn Ala Glu Gln  
20 25 30

Asn Ile Lys Gly Lys Val Gln Gly Phe Leu Glu Lys Ile Leu Asp Pro  
35 40 45

Val Lys Asp Lys Ile Ala Ser Asn Gly Pro Ile Ala Asp Glu Leu Ala  
50 55 60

Lys Lys Leu Gln Glu Glu Glu Lys Val Asn Asn Gly Glu Glu Glu Asn  
65 70 75 80

Asp Lys Ala Val Phe Leu Gly Glu Glu Ser Lys Glu Asp Glu Glu Glu  
85 90 95

Asn Glu Gln Ala Val Asn Leu Glu Glu Lys Asn Ala Glu Glu Asp Lys  
100 105 110

Lys Val Val Asn Leu Glu Glu Lys Glu Leu Glu Val Lys Lys Glu Thr  
115 120 125

Glu Glu Asp Glu Asp Lys Glu Glu Ile Glu Lys Gln Lys Gln Glu Val  
130 135 140

Glu Lys Ala Gln Glu Arg Lys Gln Arg Gln Glu Glu Lys Lys Arg Lys  
145 150 155 160

Lys Gln Glu Gln Gln Glu Glu Lys Lys Arg Lys Arg Gln Glu Gln Arg  
165 170 175

Lys Glu Arg Arg Ala Lys Asn Lys Ile Lys Lys Leu Ala Asp Lys Ile  
180 185 190

Asp Glu Ile Ser Trp Asn Ile Asp Gly Ile Glu Ser Gln Thr Ser Val  
195 200 205

Lys Pro Lys Ala Val Ile Asp Lys Ile Thr Gly Pro Val Tyr Asp Tyr  
210 215 220

Phe Thr Asp Asp Asn Lys Lys Ala Ile Tyr Lys Thr Trp Gly Asp Leu  
225 230 235 240

Glu Asp Glu Glu Gly Glu Gly Leu Gly Lys Leu Leu Lys Glu Leu Ser  
245 250 255

Asp Thr Arg Asp Glu Leu Arg Thr Lys Leu Asn Lys Asp Asn Lys Lys

260

265

270

Tyr Tyr Ala His Glu Asn Glu Pro Pro Leu Lys Glu Asn Val Asp Val  
 275 280 285

Ser Glu Ile Lys Glu Asp Leu Glu Lys Val Lys Ser Gly Leu Glu Lys  
 290 295 300

Val Lys Glu Tyr Leu Lys Asp Asn Ser Lys Phe Glu Glu Ile Lys Gly  
 305 310 315 320

Tyr Ile Ser Tyr Ser Gln  
 325

&lt;210&gt; 692

&lt;211&gt; 381

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 692

taggcacaaat tttaaatttat aaaaacttgt aaggatgctt gtatgaaaat attgataaaa 60  
 aagttaaaaag ttgtattatt tctcaattta attttactta tttcttgtgt taatgaaagt 120  
 aatagaaaca aattgggtttt taagctaaat attggaagtg agcctgctac ttttagatgct 180  
 caattaataa acgatacggg tggatcaggg attgtaagcc aaatgtttct tggcatttta 240  
 gatggagatc ccaggactgg aggatacaga cggggacttg ctaaaagttg ggatatttct 300  
 gatgacggag tagtttatac gtttcattta agagataatc ttgtttggag tgatggagtt 360  
 tccattactg ccgaagaata a 381

&lt;210&gt; 693

&lt;211&gt; 274

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 693

ttgtgttaat gaaagtaata gaaacaaatt gggtttttaag ctaaattattg gaagtgaacc 60  
 tgctacttta gatgtcaat taataaacga tacggttga tcagggattg taagccaaat 120  
 gtttcttggc atttttagatg gagatcccag gactggagga tacagaccgg gacttgctaa 180  
 aagttgggat atttctgatg acggagtgt ttatacgttt catttaagag ataattctgt 240  
 ttggagtgat ggagtttcca ttactgccga agaa 274

&lt;210&gt; 694

&lt;211&gt; 125

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 694

Ala Lys Phe Lys Phe Ile Lys Thr Cys Lys Asp Ala Cys Met Lys Ile  
 1 5 10 15

Leu Ile Lys Lys Leu Lys Val Val Leu Phe Leu Asn Leu Ile Leu Leu  
 20 25 30

Ile Ser Cys Val Asn Glu Ser Asn Arg Asn Lys Leu Val Phe Lys Leu  
 35 40 45

Asn Ile Gly Ser Glu Pro Ala Thr Leu Asp Ala Gln Leu Ile Asn Asp  
 50 55 60

Thr Val Gly Ser Gly Ile Val Ser Gln Met Phe Leu Gly Ile Leu Asp  
65 70 75 80

Gly Asp Pro Arg Thr Gly Gly Tyr Arg Pro Gly Leu Ala Lys Ser Trp  
85 90 95

Asp Ile Ser Asp Asp Gly Val Val Tyr Thr Phe His Leu Arg Asp Asn  
100 105 110

Leu Val Trp Ser Asp Gly Val Ser Ile Thr Ala Glu Glu  
115 120 125

<210> 695

<211> 91

<212> PRT

<213> Homo sapiens

<400> 695

Cys Val Asn Glu Ser Asn Arg Asn Lys Leu Val Phe Lys Leu Asn Ile  
1 5 10 15

Gly Ser Glu Pro Ala Thr Leu Asp Ala Gln Leu Ile Asn Asp Thr Val  
20 25 30

Gly Ser Gly Ile Val Ser Gln Met Phe Leu Gly Ile Leu Asp Gly Asp  
35 40 45

Pro Arg Thr Gly Gly Tyr Arg Pro Gly Leu Ala Lys Ser Trp Asp Ile  
50 55 60

Ser Asp Asp Gly Val Val Tyr Thr Phe His Leu Arg Asp Asn Leu Val  
65 70 75 80

Trp Ser Asp Gly Val Ser Ile Thr Ala Glu Glu  
85 90

<210> 696

<211> 1158

<212> DNA

<213> Homo sapiens

<400> 696

taaagaaaag cttgcataaa aagtataaca aattctttaa taattaaaat caaaaagaat 60  
ataattattg cactaaaaatt aaatttatac agttatatag aatcacttaa ggaacaaaaa 120  
atgaaatacc ttaaaaacat ttccttattt ttgttaattt taggttgcaa atccatccca 180  
aatggtaatt tcaatctaca cgatacaaac cataaattag gaaaactaaa atttcaagaa 240  
gactcgataa taagcagaaa ttatgataat aaaatatcca ttgtgggagt atacaaccct 300  
ttaacagaaa aagaaaattt taaagtcaat attttcatca aaaaaaaagg attacaaata 360  
gatcctgaaa atattttgat aaatgaagaa aaaattaatt attcaaaata taaagcagaa 420  
ctcaaagtaa aatctagctt taataaaaagc attatcagta ttctactaac taattcaaga 480  
gatctattaa cctacattta cgataaaaagc acagggaaaat acattaacat tgactttaag 540  
gacaattgga acgtatcgca cagtataaaa ttaataaagg agtatatttt agcatatata 600  
acagattttg ataaagaaa taaaatatct aaaaatattt tgcaaaaacg tattgataat 660  
agaaaaattg aaattgaaaa aacagagctt aaaacagaat ataatgaaat agaggattat 720  
tacatctaca gtatgaaaat tccaaaatta ttgaaaaat cagacgctcc ctctgaaact 780  
tacgaaacat ttgttatagc aaattattac ccctgtgaaa atttaaataat actgtttttg 840  
aatttaagct tatactctga taaattacgc tttctaaact ctatttatga tgagaatgat 900  
agaaaattaa aaatggagcc tcctgtgaga gccttaaaga attcaaaaac aataaaagaa 960

```

acattaaata tagtattaag tcctcaaaaa ataatagagc tagcaaaaaa cattgaaaaa 1020
gatattactc taaaattaaa atcttacgga gaaaaggag aattcacatt tgaaatatat 1080
aaaccacttc ttttaaaatt cttaaaagaa gtagatcatt gcataaaaaa tttgcaatca 1140
agtaggcata aatttttaa                                     1158

```

<210> 697

<211> 991

<212> DNA

<213> Homo sapiens

<400> 697

```

ttgcaaatcc atcccaaatg gtaattttcaa tctacacgat acaaaccata aattaggaaa 60
actaaaatct caagaagact cgataataag cagaaattat gataataaaa tatccattgt 120
gggagtatac aaccctttta cagaaaaaga aaatttttaa gtcaatatct tcatcaaaaa 180
aaaaggatta caaatagatc ctgaaaatat tttgataaat gaagaaaaaa ttaattattc 240
aaaatataaa gcagaactca aagtaaaatc tagctttaat aaaagcatta tcagtatttc 300
actaactaat tcaagagatc tattaaccta catttacgat aaaagcacag ggaaatacat 360
taacattgac ttttaaggaca attggaacgt atcgcacagt ataaaattta ataaggagta 420
tatttttagca tatataacag attttgataa agaaattaaa atatctaaaa atattttgca 480
aaaacgtatt gataatagaa aaattgaaat tgaaaaaaca gagcttaaaa cagaatataa 540
tgaaatagag gattattaca tctacagtat gaaaattcca aaattatttg aaaaatcaga 600
cgctccctct gaaacttacg aaacatttgt tatagcaa atattaccct gtgaaaattt 660
aaatatactg tttttgaatt taagcttata ctctgataaa ttacgctttc taaactctat 720
ttatgatgag aatgatagaa aattaaaaat ggagcctcct gtgagagcct taaagaattc 780
aaaaacaata aaagaaacat taaatatagt attaagtcct caaaaaataa tagagctagc 840
aaaaaacatt gaaaaagata ttactctaaa attaaaatct tacggagaaa agggagaatt 900
cacatttgaa atatataaac cacttcctttt aaaattctta aaagaagtag atcattgcat 960
aaaaaatttg caatcaagta ggcataaatt t                                     991

```

<210> 698

<211> 384

<212> PRT

<213> Homo sapiens

<400> 698

```

Arg Lys Ala Cys Ile Lys Ser Ile Thr Asn Ser Leu Ile Ile Lys Ile
  1             5             10             15

```

```

Lys Lys Asn Ile Ile Ile Ala Leu Lys Leu Asn Leu Tyr Ser Tyr Ile
      20             25             30

```

```

Glu Ser Leu Lys Glu Gln Lys Met Lys Tyr Leu Lys Asn Ile Ser Leu
      35             40             45

```

```

Phe Leu Leu Ile Leu Gly Cys Lys Ser Ile Pro Asn Gly Asn Phe Asn
      50             55             60

```

```

Leu His Asp Thr Asn His Lys Leu Gly Lys Leu Lys Phe Gln Glu Asp
      65             70             75             80

```

```

Ser Ile Ile Ser Arg Asn Tyr Asp Asn Lys Ile Ser Ile Val Gly Val
      85             90             95

```

```

Tyr Asn Pro Leu Thr Glu Lys Glu Asn Phe Lys Val Asn Ile Phe Ile
      100            105            110

```

```

Lys Lys Lys Gly Leu Gln Ile Asp Pro Glu Asn Ile Leu Ile Asn Glu
      115            120            125

```

Glu Lys Ile Asn Tyr Ser Lys Tyr Lys Ala Glu Leu Lys Val Lys Ser  
 130 135 140  
 Ser Phe Asn Lys Ser Ile Ile Ser Ile Ser Leu Thr Asn Ser Arg Asp  
 145 150 155 160  
 Leu Leu Thr Tyr Ile Tyr Asp Lys Ser Thr Gly Lys Tyr Ile Asn Ile  
 165 170 175  
 Asp Phe Lys Asp Asn Trp Asn Val Ser His Ser Ile Lys Phe Asn Lys  
 180 185 190  
 Glu Tyr Ile Leu Ala Tyr Ile Thr Asp Phe Asp Lys Glu Ile Lys Ile  
 195 200 205  
 Ser Lys Asn Ile Leu Gln Lys Arg Ile Asp Asn Arg Lys Ile Glu Ile  
 210 215 220  
 Glu Lys Thr Glu Leu Lys Thr Glu Tyr Asn Glu Ile Glu Asp Tyr Tyr  
 225 230 235 240  
 Ile Tyr Ser Met Lys Ile Pro Lys Leu Phe Glu Lys Ser Asp Ala Pro  
 245 250 255  
 Ser Glu Thr Tyr Glu Thr Phe Val Ile Ala Asn Tyr Tyr Pro Cys Glu  
 260 265 270  
 Asn Leu Asn Ile Leu Phe Leu Asn Leu Ser Leu Tyr Ser Asp Lys Leu  
 275 280 285  
 Arg Phe Leu Asn Ser Ile Tyr Asp Glu Asn Asp Arg Lys Leu Lys Met  
 290 295 300  
 Glu Pro Pro Val Arg Ala Leu Lys Asn Ser Lys Thr Ile Lys Glu Thr  
 305 310 315 320  
 Leu Asn Ile Val Leu Ser Pro Gln Lys Ile Ile Glu Leu Ala Lys Asn  
 325 330 335  
 Ile Glu Lys Asp Ile Thr Leu Lys Leu Lys Ser Tyr Gly Glu Lys Gly  
 340 345 350  
 Glu Phe Thr Phe Glu Ile Tyr Lys Pro Leu Leu Leu Lys Phe Leu Lys  
 355 360 365  
 Glu Val Asp His Cys Ile Lys Asn Leu Gln Ser Ser Arg His Lys Phe  
 370 375 380

&lt;210&gt; 699

&lt;211&gt; 330

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 699

Cys Lys Ser Ile Pro Asn Gly Asn Phe Asn Leu His Asp Thr Asn His  
 1 5 10 15  
 Lys Leu Gly Lys Leu Lys Phe Gln Glu Asp Ser Ile Ile Ser Arg Asn  
 20 25 30  
 Tyr Asp Asn Lys Ile Ser Ile Val Gly Val Tyr Asn Pro Leu Thr Glu  
 35 40 45  
 Lys Glu Asn Phe Lys Val Asn Ile Phe Ile Lys Lys Lys Gly Leu Gln  
 50 55 60  
 Ile Asp Pro Glu Asn Ile Leu Ile Asn Glu Glu Lys Ile Asn Tyr Ser  
 65 70 75 80  
 Lys Tyr Lys Ala Glu Leu Lys Val Lys Ser Ser Phe Asn Lys Ser Ile  
 85 90 95  
 Ile Ser Ile Ser Leu Thr Asn Ser Arg Asp Leu Leu Thr Tyr Ile Tyr  
 100 105 110  
 Asp Lys Ser Thr Gly Lys Tyr Ile Asn Ile Asp Phe Lys Asp Asn Trp  
 115 120 125  
 Asn Val Ser His Ser Ile Lys Phe Asn Lys Glu Tyr Ile Leu Ala Tyr  
 130 135 140  
 Ile Thr Asp Phe Asp Lys Glu Ile Lys Ile Ser Lys Asn Ile Leu Gln  
 145 150 155 160  
 Lys Arg Ile Asp Asn Arg Lys Ile Glu Ile Glu Lys Thr Glu Leu Lys  
 165 170 175  
 Thr Glu Tyr Asn Glu Ile Glu Asp Tyr Tyr Ile Tyr Ser Met Lys Ile  
 180 185 190  
 Pro Lys Leu Phe Glu Lys Ser Asp Ala Pro Ser Glu Thr Tyr Glu Thr  
 195 200 205  
 Phe Val Ile Ala Asn Tyr Tyr Pro Cys Glu Asn Leu Asn Ile Leu Phe  
 210 215 220  
 Leu Asn Leu Ser Leu Tyr Ser Asp Lys Leu Arg Phe Leu Asn Ser Ile  
 225 230 235 240  
 Tyr Asp Glu Asn Asp Arg Lys Leu Lys Met Glu Pro Pro Val Arg Ala  
 245 250 255  
 Leu Lys Asn Ser Lys Thr Ile Lys Glu Thr Leu Asn Ile Val Leu Ser  
 260 265 270  
 Pro Gln Lys Ile Ile Glu Leu Ala Lys Asn Ile Glu Lys Asp Ile Thr  
 275 280 285  
 Leu Lys Leu Lys Ser Tyr Gly Glu Lys Gly Glu Phe Thr Phe Glu Ile  
 290 295 300  
 Tyr Lys Pro Leu Leu Leu Lys Phe Leu Lys Glu Val Asp His Cys Ile

305

310

315

320

Lys Asn Leu Gln Ser Ser Arg His Lys Phe  
325 330

&lt;210&gt; 700

&lt;211&gt; 555

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 700

```

taaatgaaga agtttttaaat atccgttttat tttttattgt tttatgggtg ttcaactata 60
tcttttggttaa aaataaccaga aaaagataaaa ataaatttaa ctgtttttatc atctttaatg 120
aattatcctg atttgaagat ttcaaattttt aaaataaaaag actacgaaca tttgcattat 180
tcatctgatt ttgaaagctt gagtgatact aaaaatagtg cttatatatta cgttgatgaa 240
tctagtttca ataataatat taatttttatt aaagatcttt ttattttataa taagaaatta 300
tatagaatac ttattgctta tagcttgacc caagggtgcat cttttaaggc agaagtttta 360
tcttatcttg aaaaacaaaa aattatgaaa aatttttcat tgaaaaataa ttttccaact 420
gctaaaaaat ttatggataa taagtattgg attgtaattg caaaaaacca tttagattct 480
cttgtaaaga gtaaaaatta tttagtcttg gcgaatgtaa agatggaata tataactcaa 540
aagtttttaa cttga 555

```

&lt;210&gt; 701

&lt;211&gt; 451

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 701

```

ttgttcaact atatcttttg taaaaatacc agaaaaagat aaaataaatt taactgtttt 60
atcatcttta atgaattatc ctgatttgaa gatttcaa atttaaaataa aagactacga 120
acatttgc atttcatctg attttgaaag cttgagtgat actaaaaata gtgcttatat 180
ttacgttgat gaatctagtt tcaataataa tattaatttt attaaagatc tttttattta 240
taataagaaa ttatatagaa tacttattgc ttatagcttg acccaagggtg catcttttaa 300
ggcagaagtt ttatcttatc ttgaaaaaca aaaaattatg aaaaattttt cattgaaaat 360
aaattttcca actgctaaaa aatttatgga taataagtat tggattgtaa ttgcaaaaaa 420
ccatttagat tctcttggtt agagtaaaaa t 451

```

&lt;210&gt; 702

&lt;211&gt; 183

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 702

Met Lys Lys Phe Leu Ile Ser Val Tyr Phe Leu Leu Phe Tyr Gly Cys  
1 5 10 15

Ser Thr Ile Ser Leu Val Lys Ile Pro Glu Lys Asp Lys Ile Asn Leu  
20 25 30

Thr Val Leu Ser Ser Leu Met Asn Tyr Pro Asp Leu Lys Ile Ser Asn  
35 40 45

Phe Lys Ile Lys Asp Tyr Glu His Leu His Tyr Ser Ser Asp Phe Glu  
50 55 60

Ser Leu Ser Asp Thr Lys Asn Ser Ala Tyr Ile Tyr Val Asp Glu Ser  
65 70 75 80



Ser Phe Asn Asn Asn Ile Asn Phe Ile Lys Asp Leu Phe Ile Tyr Asn  
85 90 95

Lys Lys Leu Tyr Arg Ile Leu Ile Ala Tyr Ser Leu Thr Gln Gly Ala  
100 105 110

Ser Phe Lys Ala Glu Val Leu Ser Tyr Leu Glu Lys Gln Lys Ile Met  
115 120 125

Lys Asn Phe Ser Leu Lys Ile Asn Phe Pro Thr Ala Lys Lys Phe Met  
130 135 140

Asp Asn Lys Tyr Trp Ile Val Ile Ala Lys Asn His Leu Asp Ser Leu  
145 150 155 160

Val Lys Ser Lys Asn Tyr Leu Val Leu Ala Asn Val Lys Met Glu Tyr  
165 170 175

Ile Leu Lys Lys Phe Leu Thr  
180

<210> 703

<211> 150

<212> PRT

<213> Homo sapiens

<400> 703

Cys Ser Thr Ile Ser Leu Val Lys Ile Pro Glu Lys Asp Lys Ile Asn  
1 5 10 15

Leu Thr Val Leu Ser Ser Leu Met Asn Tyr Pro Asp Leu Lys Ile Ser  
20 25 30

Asn Phe Lys Ile Lys Asp Tyr Glu His Leu His Tyr Ser Ser Asp Phe  
35 40 45

Glu Ser Leu Ser Asp Thr Lys Asn Ser Ala Tyr Ile Tyr Val Asp Glu  
50 55 60

Ser Ser Phe Asn Asn Asn Ile Asn Phe Ile Lys Asp Leu Phe Ile Tyr  
65 70 75 80

Asn Lys Lys Leu Tyr Arg Ile Leu Ile Ala Tyr Ser Leu Thr Gln Gly  
85 90 95

Ala Ser Phe Lys Ala Glu Val Leu Ser Tyr Leu Glu Lys Gln Lys Ile  
100 105 110

Met Lys Asn Phe Ser Leu Lys Ile Asn Phe Pro Thr Ala Lys Lys Phe  
115 120 125

Met Asp Asn Lys Tyr Trp Ile Val Ile Ala Lys Asn His Leu Asp Ser  
130 135 140

Leu Val Lys Ser Lys Asn  
145 150

<210> 704

<211> 450  
 <212> DNA  
 <213> Homo sapiens

<400> 704  
 tagagacgaa gtcacaagca aaatgttaaa agattttacaa aatcaagttc aaggggggcaa 60  
 ataataaaaa attttaaagac aaaaattaat ttttttaggga tatttttggt actgtttacta 120  
 tttcttttctt gcgaatcaat accatcactt ccccaaaaaac caaccctaac aaacaaagaa 180  
 gatattgaaa atttaatgct cgatgaagca gaacttttta gatactcaac cgcactaaat 240  
 gtttggtctt tgactgtaaa atcttatgtg atcaaatact atcctaataa caaatctcct 300  
 gtgtttgaaa attttgatcc cgtgtttggc gatgaaaatg gaactaaaga aacaaatata 360  
 ctaaaaaaatc gaattaccta ctacaatcga tacatagaaa aaaccgaacc gattgtattt 420  
 ggggtgttaca aaaaatacag cagaagataa 450

<210> 705  
 <211> 319  
 <212> DNA  
 <213> Homo sapiens

<400> 705  
 ttgcgaatca ataccatcac ttccccaaaa accaacccta acaaacaaag aagatattga 60  
 aaattttaatg ctcgatgaag cagaactttt tagatactca accgcactaa atgtttggct 120  
 tttgactgta aaatcttatg tgatcaaata ctatcctaata gacaaatttc ctgtgtttga 180  
 aaattttgat cccgtgtttg gcgatgaaaa tggaactaaa gaaacaaata tactaaaaaa 240  
 tcgaattacc tactacaatc gatacataga aaaaaccgaa ccgattgtat ttgggtgtta 300  
 caaaaaatac agcagaaga 319

<210> 706  
 <211> 148  
 <212> PRT  
 <213> Homo sapiens

<400> 706  
 Arg Arg Ser His Lys Gln Asn Val Lys Arg Phe Thr Lys Ser Ser Ser  
 1 5 10 15  
 Arg Gly Gln Ile Met Lys Asn Leu Lys Thr Lys Ile Asn Phe Leu Gly  
 20 25 30  
 Ile Phe Trp Leu Leu Leu Leu Phe Leu Ser Cys Glu Ser Ile Pro Ser  
 35 40 45  
 Leu Pro Gln Lys Pro Thr Leu Thr Asn Lys Glu Asp Ile Glu Asn Leu  
 50 55 60  
 Met Leu Asp Glu Ala Glu Leu Phe Arg Tyr Ser Thr Ala Leu Asn Val  
 65 70 75 80  
 Trp Leu Leu Thr Val Lys Ser Tyr Val Ile Lys Tyr Tyr Pro Asn Asp  
 85 90 95  
 Lys Phe Pro Val Phe Glu Asn Phe Asp Pro Val Phe Gly Asp Glu Asn  
 100 105 110  
 Gly Thr Lys Glu Thr Asn Ile Leu Lys Asn Arg Ile Thr Tyr Tyr Asn  
 115 120 125  
 Arg Tyr Ile Glu Lys Thr Glu Pro Ile Val Phe Gly Cys Tyr Lys Lys

130 135 140

Tyr Ser Arg Arg  
145

<210> 707  
<211> 106  
<212> PRT  
<213> Homo sapiens

<400> 707  
Cys Glu Ser Ile Pro Ser Leu Pro Gln Lys Pro Thr Leu Thr Asn Lys  
1 5 10 15  
Glu Asp Ile Glu Asn Leu Met Leu Asp Glu Ala Glu Leu Phe Arg Tyr  
20 25 30  
Ser Thr Ala Leu Asn Val Trp Leu Leu Thr Val Lys Ser Tyr Val Ile  
35 40 45  
Lys Tyr Tyr Pro Asn Asp Lys Phe Pro Val Phe Glu Asn Phe Asp Pro  
50 55 60  
Val Phe Gly Asp Glu Asn Gly Thr Lys Glu Thr Asn Ile Leu Lys Asn  
65 70 75 80  
Arg Ile Thr Tyr Tyr Asn Arg Tyr Ile Glu Lys Thr Glu Pro Ile Val  
85 90 95  
Phe Gly Cys Tyr Lys Lys Tyr Ser Arg Arg  
100 105

<210> 708  
<211> 453  
<212> DNA  
<213> Homo sapiens

<400> 708  
tgaatatttaa taataaaaaa aggagtaaca atgaaaatta tcaacatatt attttgtttg 60  
tttttactaa tgctaaacgg ctgtaattct aatgatacaa ataccaagca gacaaaaagc 120  
agacaaaagc gtgatttaac ccaaaaagaa gcaacacaag aaaaacctaa atctaaatct 180  
aaagaagacc tgcttagaga aaagctatct gatgatcaaa aaacacaact tgactgggta 240  
aaaaccgctt taactgggtg tggaaaattt gataaattct tagaaaatga tgaaggcaaa 300  
attaaatcag cacttgaaca tataaagact gaacttgata aatgtaatgg aaatgatgaa 360  
ggaaaaaaca ccttcaaaac taccgttcaa gggtttttta gcggcggcaa tatagataat 420  
tttgcagatc aagcaactgc tacctgcaat taa 453

<210> 709  
<211> 370  
<212> DNA  
<213> Homo sapiens

<400> 709  
ctgtaattct aatgatacaa ataccaagca gacaaaaagc agacaaaagc gtgatttaac 60  
ccaaaaagaa gcaacacaag aaaaacctaa atctaaatct aaagaagacc tgcttagaga 120  
aaagctatct gatgatcaaa aaacacaact tgactgggta aaaaccgctt taactgggtg 180  
tggaaaattt gataaattct tagaaaatga tgaaggcaaa attaaatcag cacttgaaca 240  
tataaagact gaacttgata aatgtaatgg aaatgatgaa ggaaaaaaca ccttcaaaac 300

taccgttcaa ggggtttttta gcggcggcaa tatagataat tttgcagatc aagcaactgc 360  
 tacctgcaat 370

<210> 710  
 <211> 149  
 <212> PRT  
 <213> Homo sapiens

<400> 710  
 Ile Leu Ile Ile Lys Lys Gly Val Thr Met Lys Ile Ile Asn Ile Leu  
 1 5 10 15  
 Phe Cys Leu Phe Leu Leu Met Leu Asn Gly Cys Asn Ser Asn Asp Thr  
 20 25 30  
 Asn Thr Lys Gln Thr Lys Ser Arg Gln Lys Arg Asp Leu Thr Gln Lys  
 35 40 45  
 Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys Ser Lys Glu Asp Leu Leu  
 50 55 60  
 Arg Glu Lys Leu Ser Asp Asp Gln Lys Thr Gln Leu Asp Trp Leu Lys  
 65 70 75 80  
 Thr Ala Leu Thr Gly Val Gly Lys Phe Asp Lys Phe Leu Glu Asn Asp  
 85 90 95  
 Glu Gly Lys Ile Lys Ser Ala Leu Glu His Ile Lys Thr Glu Leu Asp  
 100 105 110  
 Lys Cys Asn Gly Asn Asp Glu Gly Lys Asn Thr Phe Lys Thr Thr Val  
 115 120 125  
 Gln Gly Phe Phe Ser Gly Gly Asn Ile Asp Asn Phe Ala Asp Gln Ala  
 130 135 140  
 Thr Ala Thr Cys Asn  
 145

<210> 711  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 711  
 Cys Asn Ser Asn Asp Thr Asn Thr Lys Gln Thr Lys Ser Arg Gln Lys  
 1 5 10 15  
 Arg Asp Leu Thr Gln Lys Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys  
 20 25 30  
 Ser Lys Glu Asp Leu Leu Arg Glu Lys Leu Ser Asp Asp Gln Lys Thr  
 35 40 45  
 Gln Leu Asp Trp Leu Lys Thr Ala Leu Thr Gly Val Gly Lys Phe Asp  
 50 55 60  
 Lys Phe Leu Glu Asn Asp Glu Gly Lys Ile Lys Ser Ala Leu Glu His

65                      70                      75                      80

Ile Lys Thr Glu Leu Asp Lys Cys Asn Gly Asn Asp Glu Gly Lys Asn  
                                  85                                   90                                   95

Thr Phe Lys Thr Thr Val Gln Gly Phe Phe Ser Gly Gly Asn Ile Asp  
                                  100                                   105                                   110

Asn Phe Ala Asp Gln Ala Thr Ala Thr Cys Asn  
                                  115                                   120

<210> 712  
 <211> 768  
 <212> DNA  
 <213> Homo sapiens

<400> 712  
 taagtaagga gaatatttat gaaatataat acgattataa gcatatttgt ttgtttgttt 60  
 ttaactgctt gcaatccaga ttttaacaca aataagaaaa gaactctaag taaggggata 120  
 atttcaaatac aagatgcaga ttctgataaa ataataaaaa ataaattact tgatgattta 180  
 ataaattttaa tagaaaaagc gaatgcagat agagaaaaat atgtaaaaaa aatggaagaa 240  
 gaaccttcgg atcaatatgg aatgttggct gtttttggag gtatgtattg ggcagaatca 300  
 ccacgggaat taatatctga tacaggtagt gagagatcta ttaggtatag aaggcgtgtt 360  
 tatagtattt tattaaatgc tattgaaact aatgaattaa agaaattttc agaaattaga 420  
 atactgtcaa taaaagtact agaaatattt agcctattta atctatttgg aagtactctt 480  
 gatgatgtgg ttgttcactt atattccaaa aaagataactc taggtaaaact agatatttca 540  
 aatttaaaaa gacttaaaaa tttgtttgaa aaattattat ctataaaaac aatcgtttca 600  
 aagatgtcaa aacgtctttt attggattat caaaataatg aaaattttat aaaaacagat 660  
 aacgccaaagc ttggatctta tgtggttgca ctttccaatc aaattcaaga aaaaataaat 720  
 gaagcagaaaa ggcgaaaaag cgagataatt ttaatatata cccttttaa 768

<210> 713  
 <211> 670  
 <212> DNA  
 <213> Homo sapiens

<400> 713  
 ttgcaatcca gattttaaca caaataagaa aagaactcta agtaagggga taatttcaaa 60  
 tcaagatgca gattctgata aaataataaa aaataaatta cttgatgatt taataaattt 120  
 aatagaaaaa gcgaatgcag atagagaaaa atatgtaaaa aaaatggaag aagaaccttc 180  
 ggatcaatat ggaatgttgg ctgttttttg aggtatgtat tgggcagaat caccacggga 240  
 attaatatct gatacaggta gtgagagatc tattaggtat agaaggcgtg tttatagtat 300  
 tttattaaat gctattgaaa ctaatgaatt aaagaaattt tcagaaatta gaatactgtc 360  
 aataaaaagta ctagaaatat ttagcctatt taatctattt ggaagtactc ttgatgatgt 420  
 gggtgttcac ttatattcca aaaaagatac tctaggtaaa ctagatattt caaattttaa 480  
 aagacttaaa aatttgtttg aaaaattatt atctataaaa acaatcgttt caaagatgtc 540  
 aaaacgtctt ttattggatt atcaaaataa tgaaaatttt ataaaaacag ataacgcaa 600  
 gcttggtatc tatgtggttg cactttccaa tcaaattcaa gaaaaatata atgaagcaga 660  
 aaggctgaaa 670

<210> 714  
 <211> 254  
 <212> PRT  
 <213> Homo sapiens

<400> 714  
 Val Arg Arg Ile Phe Met Lys Tyr Asn Thr Ile Ile Ser Ile Phe Val  
                                  1                                   5                                   10                                   15

Cys Leu Phe Leu Thr Ala Cys Asn Pro Asp Phe Asn Thr Asn Lys Lys  
                   20                  25                  30  
 Arg Thr Leu Ser Lys Gly Ile Ile Ser Asn Gln Asp Ala Asp Ser Asp  
                   35                  40                  45  
 Lys Ile Ile Lys Asn Lys Leu Leu Asp Asp Leu Ile Asn Leu Ile Glu  
                   50                  55                  60  
 Lys Ala Asn Ala Asp Arg Glu Lys Tyr Val Lys Lys Met Glu Glu Glu  
                   65                  70                  75                  80  
 Pro Ser Asp Gln Tyr Gly Met Leu Ala Val Phe Gly Gly Met Tyr Trp  
                   85                  90                  95  
 Ala Glu Ser Pro Arg Glu Leu Ile Ser Asp Thr Gly Ser Glu Arg Ser  
                   100                  105                  110  
 Ile Arg Tyr Arg Arg Arg Val Tyr Ser Ile Leu Leu Asn Ala Ile Glu  
                   115                  120                  125  
 Thr Asn Glu Leu Lys Lys Phe Ser Glu Ile Arg Ile Leu Ser Ile Lys  
                   130                  135                  140  
 Val Leu Glu Ile Phe Ser Leu Phe Asn Leu Phe Gly Ser Thr Leu Asp  
                   145                  150                  155                  160  
 Asp Val Val Val His Leu Tyr Ser Lys Lys Asp Thr Leu Gly Lys Leu  
                   165                  170                  175  
 Asp Ile Ser Asn Leu Lys Arg Leu Lys Asn Leu Phe Glu Lys Leu Leu  
                   180                  185                  190  
 Ser Ile Lys Thr Ile Val Ser Lys Met Ser Lys Arg Leu Leu Leu Asp  
                   195                  200                  205  
 Tyr Gln Asn Asn Glu Asn Phe Ile Lys Thr Asp Asn Ala Lys Leu Gly  
                   210                  215                  220  
 Ser Tyr Val Val Ala Leu Ser Asn Gln Ile Gln Glu Lys Tyr Asn Glu  
                   225                  230                  235                  240  
 Ala Glu Arg Leu Lys Ser Glu Ile Ile Leu Ile Tyr Thr Leu  
                   245                  250

<210> 715

<211> 223

<212> PRT

<213> Homo sapiens

<400> 715

Cys Asn Pro Asp Phe Asn Thr Asn Lys Lys Arg Thr Leu Ser Lys Gly  
                   1                  5                  10                  15

Ile Ile Ser Asn Gln Asp Ala Asp Ser Asp Lys Ile Ile Lys Asn Lys  
                   20                  25                  30

Leu Leu Asp Asp Leu Ile Asn Leu Ile Glu Lys Ala Asn Ala Asp Arg  
           35                          40                          45  
 Glu Lys Tyr Val Lys Lys Met Glu Glu Glu Pro Ser Asp Gln Tyr Gly  
           50                          55                          60  
 Met Leu Ala Val Phe Gly Gly Met Tyr Trp Ala Glu Ser Pro Arg Glu  
           65                          70                          75                          80  
 Leu Ile Ser Asp Thr Gly Ser Glu Arg Ser Ile Arg Tyr Arg Arg Arg  
                           85                          90                          95  
 Val Tyr Ser Ile Leu Leu Asn Ala Ile Glu Thr Asn Glu Leu Lys Lys  
                           100                          105                          110  
 Phe Ser Glu Ile Arg Ile Leu Ser Ile Lys Val Leu Glu Ile Phe Ser  
           115                          120                          125  
 Leu Phe Asn Leu Phe Gly Ser Thr Leu Asp Asp Val Val Val His Leu  
           130                          135                          140  
 Tyr Ser Lys Lys Asp Thr Leu Gly Lys Leu Asp Ile Ser Asn Leu Lys  
           145                          150                          155                          160  
 Arg Leu Lys Asn Leu Phe Glu Lys Leu Leu Ser Ile Lys Thr Ile Val  
                           165                          170                          175  
 Ser Lys Met Ser Lys Arg Leu Leu Leu Asp Tyr Gln Asn Asn Glu Asn  
           180                          185                          190  
 Phe Ile Lys Thr Asp Asn Ala Lys Leu Gly Ser Tyr Val Val Ala Leu  
           195                          200                          205  
 Ser Asn Gln Ile Gln Glu Lys Tyr Asn Glu Ala Glu Arg Leu Lys  
           210                          215                          220

&lt;210&gt; 716

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 716

taatatatat tcttgattaa gggaaaggag agtatttttta tgaaaaaaaa aatgttttta 60  
 tatacattgt taacgatagg attgatgtct tgtaattctaa attctaaatt atctggtaatt 120  
 aaagaggaac aaaaaaataa caatgatata aaagaagctt taaatggcgt tcaagaaaat 180  
 gctattaata atttatatgg aaataaaaaa gaaaaaaaaag attttattaa aaattcggaa 240  
 aaattgaaag acaagggttt agacgtgacc accctccct tagaacctgt agtggcgccc 300  
 tccgtagaat ctgcggtgtc tttaggagaa tctaataata ggattggtat accaaccatt 360  
 tcaattgagc ataatacaaaa aaaagagata aaagaagagg attttttccc ttctactgag 420  
 gaagaaaagc aagcggataa agcaattaaa gatatagaga atcttattgg agaattctgga 480  
 tttcccagat taattgagaa tgtgtgtctca cttaaacatg aatatacttt aataagaagt 540  
 gatttttatg atgtgataac taagattcag aataaaaaaa tatcactaat gaaaaattct 600  
 cataataata gaaataaaat aagggaacta gtacaattgc aaaataattt aaagatagga 660  
 gacgaacttg ataaaattat gggttgcatt gatactgcag aacaagagat aagatctgcc 720  
 gctttctttt ttgatgaagc taaggaaagc ttaaaagaag gtattattaa aagattggaa 780  
 aaaagtaaaa atagggcagc atcacaatta tctaaaaagg ctttaaataag agcagaggat 840  
 gctttaaggt gcttagaaaa ttattcttct aaaaaagggt aggcaatagg aagaagaagc 900  
 tttataaaag aagttgttga acaggcaaaa aatgctttaa gtaagtctta a 951

<210> 717  
 <211> 859  
 <212> DNA  
 <213> Homo sapiens

<400> 717  
 ttgtaatcta aattctaaat tatctggtaa taaagaggaa caaaaaaata acaatgatat 60  
 aaaagaagct ttaaattggcg ttcaagaaaa tgctattaat aatttatatg gaaataaaaa 120  
 agaaaaaaaa gattttatta aaaattcgga aaaattgaaa gacaagggtt tagacgtgac 180  
 caccctcccc ttagaacctg tagtggcgcc ctccgtagaa tctgcggtgt ctttaggaga 240  
 atctaataat aggattggta taccaaccat ttcaattgag cataatcaaa aaaaagagat 300  
 aaaagaagag gattttttcc cttctactga ggaagaaaag caagcggata aagcaattaa 360  
 agatatagag aatcttattg gagaatctgg atttcccgag ttaattgaga atgtgtgctc 420  
 acttaaacat gaataactt taataagaag tgatttttat gatgtgataa ctaagattca 480  
 gaataaaaaa atatcactaa tgaaaaattc tcataataat agaaataaaa taagggaact 540  
 agtaccaattg caaaataatt taaagatagg agacgaactt gataaaatta tgggttgcat 600  
 tgataactgca gaacaagaga taagatctgc cgctttcttt tttgatgaag ctaaggaaag 660  
 cttaaaaagaa ggtattatta aaagattgga aaaaagtaaa aatagggcag catcacaatt 720  
 atctaataag gctttaaata gagcagagga tgctttaagg tgcttagaaa attattcttc 780  
 taaaaaaggt gaggcaatag gaagaagaag ctttataaaa gaagttgttg aacaggcaaa 840  
 aaatgcttta agtaagtct 859

<210> 718  
 <211> 315  
 <212> PRT  
 <213> Homo sapiens

<400> 718  
 Tyr Ile Phe Leu Ile Lys Gly Lys Glu Ser Ile Phe Met Lys Lys Lys  
 1 5 10 15  
 Met Phe Leu Tyr Thr Leu Leu Thr Ile Gly Leu Met Ser Cys Asn Leu  
 20 25 30  
 Asn Ser Lys Leu Ser Gly Asn Lys Glu Glu Gln Lys Asn Asn Asn Asp  
 35 40 45  
 Ile Lys Glu Ala Leu Asn Gly Val Gln Glu Asn Ala Ile Asn Asn Leu  
 50 55 60  
 Tyr Gly Asn Lys Lys Glu Lys Lys Asp Phe Ile Lys Asn Ser Glu Lys  
 65 70 75 80  
 Leu Lys Asp Lys Gly Leu Asp Val Thr Thr Leu Pro Leu Glu Pro Val  
 85 90 95  
 Val Ala Pro Ser Val Glu Ser Ala Val Ser Leu Gly Glu Ser Asn Asn  
 100 105 110  
 Arg Ile Gly Ile Pro Thr Ile Ser Ile Glu His Asn Gln Lys Lys Glu  
 115 120 125  
 Ile Lys Glu Glu Asp Phe Phe Pro Ser Thr Glu Glu Glu Lys Gln Ala  
 130 135 140  
 Asp Lys Ala Ile Lys Asp Ile Glu Asn Leu Ile Gly Glu Ser Gly Phe  
 145 150 155 160



Pro Glu Leu Ile Glu Asn Val Cys Ser Leu Lys His Glu Tyr Thr Leu  
165 170 175

Ile Arg Ser Asp Phe Tyr Asp Val Ile Thr Lys Ile Gln Asn Lys Lys  
180 185 190

Ile Ser Leu Met Lys Asn Ser His Asn Asn Arg Asn Lys Ile Arg Glu  
195 200 205

Leu Val Gln Leu Gln Asn Asn Leu Lys Ile Gly Asp Glu Leu Asp Lys  
210 215 220

Ile Met Gly Cys Ile Asp Thr Ala Glu Gln Glu Ile Arg Ser Ala Ala  
225 230 235 240

Phe Phe Phe Asp Glu Ala Lys Glu Ser Leu Lys Glu Gly Ile Ile Lys  
245 250 255

Arg Leu Glu Lys Ser Lys Asn Arg Ala Ala Ser Gln Leu Ser Lys Lys  
260 265 270

Ala Leu Asn Arg Ala Glu Asp Ala Leu Arg Cys Leu Glu Asn Tyr Ser  
275 280 285

Ser Lys Lys Gly Glu Ala Ile Gly Arg Arg Ser Phe Ile Lys Glu Val  
290 295 300

Val Glu Gln Ala Lys Asn Ala Leu Ser Lys Ser  
305 310 315

<210> 719

<211> 286

<212> PRT

<213> Homo sapiens

<400> 719

Cys Asn Leu Asn Ser Lys Leu Ser Gly Asn Lys Glu Glu Gln Lys Asn  
1 5 10 15

Asn Asn Asp Ile Lys Glu Ala Leu Asn Gly Val Gln Glu Asn Ala Ile  
20 25 30

Asn Asn Leu Tyr Gly Asn Lys Lys Glu Lys Lys Asp Phe Ile Lys Asn  
35 40 45

Ser Glu Lys Leu Lys Asp Lys Gly Leu Asp Val Thr Thr Leu Pro Leu  
50 55 60

Glu Pro Val Val Ala Pro Ser Val Glu Ser Ala Val Ser Leu Gly Glu  
65 70 75 80

Ser Asn Asn Arg Ile Gly Ile Pro Thr Ile Ser Ile Glu His Asn Gln  
85 90 95

Lys Lys Glu Ile Lys Glu Glu Asp Phe Phe Pro Ser Thr Glu Glu Glu  
100 105 110

Lys Gln Ala Asp Lys Ala Ile Lys Asp Ile Glu Asn Leu Ile Gly Glu  
115 120 125

Ser Gly Phe Pro Glu Leu Ile Glu Asn Val Cys Ser Leu Lys His Glu  
130 135 140

Tyr Thr Leu Ile Arg Ser Asp Phe Tyr Asp Val Ile Thr Lys Ile Gln  
145 150 155 160

Asn Lys Lys Ile Ser Leu Met Lys Asn Ser His Asn Asn Arg Asn Lys  
165 170 175

Ile Arg Glu Leu Val Gln Leu Gln Asn Asn Leu Lys Ile Gly Asp Glu  
180 185 190

Leu Asp Lys Ile Met Gly Cys Ile Asp Thr Ala Glu Gln Glu Ile Arg  
195 200 205

Ser Ala Ala Phe Phe Phe Asp Glu Ala Lys Glu Ser Leu Lys Glu Gly  
210 215 220

Ile Ile Lys Arg Leu Glu Lys Ser Lys Asn Arg Ala Ala Ser Gln Leu  
225 230 235 240

Ser Lys Lys Ala Leu Asn Arg Ala Glu Asp Ala Leu Arg Cys Leu Glu  
245 250 255

Asn Tyr Ser Ser Lys Lys Gly Glu Ala Ile Gly Arg Arg Ser Phe Ile  
260 265 270

Lys Glu Val Val Glu Gln Ala Lys Asn Ala Leu Ser Lys Ser  
275 280 285

<210> 720

<211> 918

<212> DNA

<213> Homo sapiens

<400> 720

```

tgattaatttt tttttaagga ttacgtttttg aaaagaaaca aaattttggaa aacgttaaaa 60
ctgttttcaaa taacttttact gttctcatgc tcttttttatt ctaaatcaaa caacacagaa 120
gcgataagtg aattacaatc aagccctatt aaacttggaa aaattaaagt ttacaaaaaa 180
acagaaaaaga ttgtaagcac ccaaaatcct caaaacttac aacaaagcca gttcttttaa 240
aatgaaaaag aaaaaataat taaaaaaatt gcacaagaat ttgatgagaa tgaaaaattg 300
attaataaaa taggtccaaa tatcgaaatg tttgctcaaa caataaacac ggatattcaa 360
aaaatcgaac ctaatgatca atttggaata aataaaactt tattcacaga aaaaaagac 420
aataatattg actttatgtt aaaagacaat cgacttagaa gattatttta ctcattctta 480
aattatgatg aaaataaaat caaaaaatta gccacaatac tcgcgcaaac atcaagctca 540
aacgactacc attacacact tattggttta attttttggg caggatttaa aatccaagaa 600
gcatttgaaa gcgctgttaa tattttaact aaagacgagc aaaagcgcct aatttttaat 660
tttagaacaa aaacagtaaa agagattcag gaaaattttg aaaaactaat gcaagagaga 720
aattcatgga taaaaatcgt cgataacatt attggcgaat atgacaaaaa tacgggagga 780
tgcaaagctg atggaaaaat tctcggagaa gtaataaggg ttggatacga gcatgaactc 840
gactcaaata aaagtatgca aattttaaac aatattgaaa caccgctaaa aacctgttgt 900
gaccacatac actactaa                                     918

```

<210> 721

<211> 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 721

```

tgctcttttt attctaaatc aaacaacaca gaagcgataa gtgaattaca atcaagccct 60
attaaacttg gaaaaattaa agtttttaca aaaacagaaa agattgtaag caccctaaat 120
cttcaaaact tacaacaaag ccagttcttt aaaaatgaaa aagaaaaaat aattaaaaaa 180
attgcacaag aatttgatga gaatgaaaaa ttgattaata aaataggtcc aaatatcgaa 240
atgtttgctc aaacaataaa cacggatatt caaaaaatcg aacctaatga tcaatttgga 300
ataaataaaa ctttattcac agaaaaaaaa gacaataata ttgactttat gttaaaagac 360
aatcgactta gaagattatt ttactcatct ttaaattatg atgaaaataa aatcaaaaaa 420
ttagccacaa tactcgcgca aacatcaagc tcaaacgact accattacac acttattggt 480
ttaatttttt ggacaggatt taaaatccaa gaagcatttg aaagcgctgt taatatttta 540
actaaagacg agcaaaagcg cctaattttt aatttttagaa caaaaacagt aaaagagatt 600
caggaaaatt ttgaaaaact aatgcaagag agaaattcat ggataaaaat cgtcgataac 660
attattggcg aatatgacaa aaatacggga ggatgcaaag ctgatggaaa aattctcgga 720
gaagtaataa gggttggata cgagcatgaa ctcgactcaa ataaaagtat gcaaatttta 780
aacaatattg aaacaccgct aaaaacctgt tgtgaccaca tacactac 828

```

&lt;210&gt; 722

&lt;211&gt; 304

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 722

```

Leu Ile Phe Phe Lys Asp Tyr Val Leu Lys Arg Asn Lys Ile Trp Lys
 1             5             10             15

Thr Leu Lys Leu Phe Gln Ile Thr Leu Leu Phe Ser Cys Ser Phe Tyr
      20             25             30

Ser Lys Ser Asn Asn Thr Glu Ala Ile Ser Glu Leu Gln Ser Ser Pro
      35             40             45

Ile Lys Leu Gly Lys Ile Lys Val Leu Gln Lys Thr Glu Lys Ile Val
      50             55             60

Ser Thr Gln Asn Leu Gln Asn Leu Gln Gln Ser Gln Phe Phe Lys Asn
      65             70             75             80

Glu Lys Glu Lys Ile Ile Lys Lys Ile Ala Gln Glu Phe Asp Glu Asn
      85             90             95

Glu Lys Leu Ile Asn Lys Ile Gly Pro Asn Ile Glu Met Phe Ala Gln
      100            105            110

Thr Ile Asn Thr Asp Ile Gln Lys Ile Glu Pro Asn Asp Gln Phe Gly
      115            120            125

Ile Asn Lys Thr Leu Phe Thr Glu Lys Lys Asp Asn Asn Ile Asp Phe
      130            135            140

Met Leu Lys Asp Asn Arg Leu Arg Arg Leu Phe Tyr Ser Ser Leu Asn
      145            150            155            160

Tyr Asp Glu Asn Lys Ile Lys Lys Leu Ala Thr Ile Leu Ala Gln Thr
      165            170            175

```

Ser Ser Ser Asn Asp Tyr His Tyr Thr Leu Ile Gly Leu Ile Phe Trp  
 180 185 190

Thr Gly Phe Lys Ile Gln Glu Ala Phe Glu Ser Ala Val Asn Ile Leu  
 195 200 205

Thr Lys Asp Glu Gln Lys Arg Leu Ile Phe Asn Phe Arg Thr Lys Thr  
 210 215 220

Val Lys Glu Ile Gln Glu Asn Phe Glu Lys Leu Met Gln Glu Arg Asn  
 225 230 235 240

Ser Trp Ile Lys Ile Val Asp Asn Ile Ile Gly Glu Tyr Asp Lys Asn  
 245 250 255

Thr Gly Gly Cys Lys Ala Asp Gly Lys Ile Leu Gly Glu Val Ile Arg  
 260 265 270

Val Gly Tyr Glu His Glu Leu Asp Ser Asn Lys Ser Met Gln Ile Leu  
 275 280 285

Asn Asn Ile Glu Thr Pro Leu Lys Thr Cys Cys Asp His Ile His Tyr  
 290 295 300

&lt;210&gt; 723

&lt;211&gt; 276

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 723

Cys Ser Phe Tyr Ser Lys Ser Asn Asn Thr Glu Ala Ile Ser Glu Leu  
 1 5 10 15

Gln Ser Ser Pro Ile Lys Leu Gly Lys Ile Lys Val Leu Gln Lys Thr  
 20 25 30

Glu Lys Ile Val Ser Thr Gln Asn Leu Gln Asn Leu Gln Gln Ser Gln  
 35 40 45

Phe Phe Lys Asn Glu Lys Glu Lys Ile Ile Lys Lys Ile Ala Gln Glu  
 50 55 60

Phe Asp Glu Asn Glu Lys Leu Ile Asn Lys Ile Gly Pro Asn Ile Glu  
 65 70 75 80

Met Phe Ala Gln Thr Ile Asn Thr Asp Ile Gln Lys Ile Glu Pro Asn  
 85 90 95

Asp Gln Phe Gly Ile Asn Lys Thr Leu Phe Thr Glu Lys Lys Asp Asn  
 100 105 110

Asn Ile Asp Phe Met Leu Lys Asp Asn Arg Leu Arg Arg Leu Phe Tyr  
 115 120 125

Ser Ser Leu Asn Tyr Asp Glu Asn Lys Ile Lys Lys Leu Ala Thr Ile

130 135 140

Leu Ala Gln Thr Ser Ser Ser Asn Asp Tyr His Tyr Thr Leu Ile Gly  
145 150 155 160

Leu Ile Phe Trp Thr Gly Phe Lys Ile Gln Glu Ala Phe Glu Ser Ala  
165 170 175

Val Asn Ile Leu Thr Lys Asp Glu Gln Lys Arg Leu Ile Phe Asn Phe  
180 185 190

Arg Thr Lys Thr Val Lys Glu Ile Gln Glu Asn Phe Glu Lys Leu Met  
195 200 205

Gln Glu Arg Asn Ser Trp Ile Lys Ile Val Asp Asn Ile Ile Gly Glu  
210 215 220

Tyr Asp Lys Asn Thr Gly Gly Cys Lys Ala Asp Gly Lys Ile Leu Gly  
225 230 235 240

Glu Val Ile Arg Val Gly Tyr Glu His Glu Leu Asp Ser Asn Lys Ser  
245 250 255

Met Gln Ile Leu Asn Asn Ile Glu Thr Pro Leu Lys Thr Cys Cys Asp  
260 265 270

His Ile His Tyr  
275

&lt;210&gt; 724

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 724

```

taattaatac tgggttttaac ttataaggag agtatttttga aaaaagccaa actaaatata 60
atcaagatta atattattac aatgatatta actttaattt gcatctcatg tgcacctttt 120
aacaaaatca atcccaaggc aaatgaaaac accaagctta aaaaaaacac cagactgaaa 180
aaacccgcc aatccagggga aaacatccaa aatttttaaag ataaatctgg agaccttggc 240
gcttctgatg aaaaatttat gggaactacc gcttcagagc taaaagcaat tggtaaggag 300
ctagaagatc gaaaaaatca atacgatata caaatagcca aaattactaa tgaagaatct 360
aacctattag atacttatat tcgggcttat gaactagcta acgaaaatga aaaaatgctt 420
ttaaaaagat ttcttctttc atcttttagat tataaaaaag aaaacataga gacattaaaa 480
gaaattcttg aaaaactcat aaataattac gaaaacgacc caaaattgc tgcaaatttc 540
ctttatcgca tagcgctgga tattcaatta aaactggaaa agcacttaaa atcaataaat 600
gaaaaactgg acactctaag caaagaaaat tcaaaagaag atttagaggc gttgctagaa 660
caagtaaaat ctgccttaca gctacaagaa aagtttataa aaaccctaaa caaaactctt 720
gaagattacc gtaaaaatac taacaacatt caagaaaata agtactagc agaacacttt 780
aataaatatt acaaagactc tgattcttta caatctgcct tttattaa 828

```

&lt;210&gt; 725

&lt;211&gt; 717

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 725

```

tgtgcacctt ttaacaaaat caatcccaag gcaaatgaaa acaccaagct taaaaaaaac 60
accagactga aaaaaccgc caatccaggg gaaaacatcc aaaattttta agataaatct 120

```

```

ggagaccttg gcgcttctga tgaaaaattt atgggaacta ccgcttcaga gctaaaagca 180
attggaagg agctagaaga tcgaaaaaat caatacgata taaaaatagc caaaattact 240
aatgaagaat ctaacctatt agatacttat attcgggctt atgaactagc taacgaaaat 300
gaaaaaatgc ttttaaaaag atttcttctt tcatcttttag attataaaaa agaaaacata 360
gagacattaa aagaaattct tgaaaaactc ataaataatt acgaaaacga ccccaaaatt 420
gctgcaaatt tcctttatcg catagcgctg gatattcaat taaaactgga aaagcactta 480
aaatcaataa atgaaaaact ggacactcta agcaaagaaa attcaaaaga agatttagag 540
gcgttgctag aacaagtaaa atctgcctta cagctacaag aaaagttaa aaaaacccta 600
aacaaaactc ttgaagatta ccgtaaaaat actaacaaca ttcaagaaaa taaagtacta 660
gcagaacact ttaataaata ttacaaagac tctgattctt tacaatctgc cttttat 717

```

<210> 726

<211> 274

<212> PRT

<213> Homo sapiens

<400> 726

```

Leu Ile Leu Val Leu Ile Tyr Lys Glu Ser Ile Leu Lys Lys Ala Lys
  1             5             10             15

```

```

Leu Asn Ile Ile Lys Ile Asn Ile Ile Thr Met Ile Leu Thr Leu Ile
          20             25             30

```

```

Cys Ile Ser Cys Ala Pro Phe Asn Lys Ile Asn Pro Lys Ala Asn Glu
      35             40             45

```

```

Asn Thr Lys Leu Lys Lys Asn Thr Arg Leu Lys Lys Pro Ala Asn Pro
      50             55             60

```

```

Gly Glu Asn Ile Gln Asn Phe Lys Asp Lys Ser Gly Asp Leu Gly Ala
      65             70             75             80

```

```

Ser Asp Glu Lys Phe Met Gly Thr Thr Ala Ser Glu Leu Lys Ala Ile
          85             90             95

```

```

Gly Lys Glu Leu Glu Asp Arg Lys Asn Gln Tyr Asp Ile Gln Ile Ala
      100            105            110

```

```

Lys Ile Thr Asn Glu Glu Ser Asn Leu Leu Asp Thr Tyr Ile Arg Ala
      115            120            125

```

```

Tyr Glu Leu Ala Asn Glu Asn Glu Lys Met Leu Leu Lys Arg Phe Leu
      130            135            140

```

```

Leu Ser Ser Leu Asp Tyr Lys Lys Glu Asn Ile Glu Thr Leu Lys Glu
      145            150            155            160

```

```

Ile Leu Glu Lys Leu Ile Asn Asn Tyr Glu Asn Asp Pro Lys Ile Ala
          165            170            175

```

```

Ala Asn Phe Leu Tyr Arg Ile Ala Leu Asp Ile Gln Leu Lys Leu Glu
          180            185            190

```

```

Lys His Leu Lys Ser Ile Asn Glu Lys Leu Asp Thr Leu Ser Lys Glu
      195            200            205

```

```

Asn Ser Lys Glu Asp Leu Glu Ala Leu Leu Glu Gln Val Lys Ser Ala
      210            215            220

```

Leu Gln Leu Gln Glu Lys Phe Lys Lys Thr Leu Asn Lys Thr Leu Glu  
225 230 235 240

Asp Tyr Arg Lys Asn Thr Asn Asn Ile Gln Glu Asn Lys Val Leu Ala  
245 250 255

Glu His Phe Asn Lys Tyr Tyr Lys Asp Ser Asp Ser Leu Gln Ser Ala  
260 265 270

Phe Tyr

<210> 727

<211> 239

<212> PRT

<213> Homo sapiens

<400> 727

Cys Ala Pro Phe Asn Lys Ile Asn Pro Lys Ala Asn Glu Asn Thr Lys  
1 5 10 15

Leu Lys Lys Asn Thr Arg Leu Lys Lys Pro Ala Asn Pro Gly Glu Asn  
20 25 30

Ile Gln Asn Phe Lys Asp Lys Ser Gly Asp Leu Gly Ala Ser Asp Glu  
35 40 45

Lys Phe Met Gly Thr Thr Ala Ser Glu Leu Lys Ala Ile Gly Lys Glu  
50 55 60

Leu Glu Asp Arg Lys Asn Gln Tyr Asp Ile Gln Ile Ala Lys Ile Thr  
65 70 75 80

Asn Glu Glu Ser Asn Leu Leu Asp Thr Tyr Ile Arg Ala Tyr Glu Leu  
85 90 95

Ala Asn Glu Asn Glu Lys Met Leu Leu Lys Arg Phe Leu Leu Ser Ser  
100 105 110

Leu Asp Tyr Lys Lys Glu Asn Ile Glu Thr Leu Lys Glu Ile Leu Glu  
115 120 125

Lys Leu Ile Asn Asn Tyr Glu Asn Asp Pro Lys Ile Ala Ala Asn Phe  
130 135 140

Leu Tyr Arg Ile Ala Leu Asp Ile Gln Leu Lys Leu Glu Lys His Leu  
145 150 155 160

Lys Ser Ile Asn Glu Lys Leu Asp Thr Leu Ser Lys Glu Asn Ser Lys  
165 170 175

Glu Asp Leu Glu Ala Leu Leu Glu Gln Val Lys Ser Ala Leu Gln Leu  
180 185 190

Gln Glu Lys Phe Lys Lys Thr Leu Asn Lys Thr Leu Glu Asp Tyr Arg  
195 200 205

Lys Asn Thr Asn Asn Ile Gln Glu Asn Lys Val Leu Ala Glu His Phe  
 210 215 220

Asn Lys Tyr Tyr Lys Asp Ser Asp Ser Leu Gln Ser Ala Phe Tyr  
 225 230 235

<210> 728

<211> 783

<212> DNA

<213> Homo sapiens

<400> 728

```

tgattttaatg taaatttttaa ttaccgccta aaaaaggcctt taaatggtat aaaggaagaa 60
gatctaattgg tatttagaac atataaacat ttggaactaa taatgctgcc catgttaatg 120
ctgagttgctg ctttttttaa gaaaccacaa tctgtacatc aagacagcaa tactggcaaa 180
ccaataagcg atgaaaaatt acattttaata tcaggcaaaa tttcaaataa aaaattgcc 240
atcataaata gtaatcatga cgtaacttgg ataaaaacaa aggcaatgac aatcttaggc 300
gaagatggaa aagaaatacc agaattttaa acaaaatttg gatattctta tataatatct 360
cctgtaaaaa tggatggaaa atatagttat tacgcgtcat tattaatact ttttgaaaca 420
actaaaaatg gagatgatga atatgaaatt gaagatgtta aatttgtaac agctggttcc 480
accctagaac ttaaaaaattc tcttttagct gttgaaaatt cacaagaaga aggatatgtt 540
actgcatacc catttggaat attgatgagt gacgagatta aaaatgcttt taaattaaca 600
tataaaaatg gtcattggaa ttatatgctt gcagatttaa ctgtcaaaaa taaacttact 660
caagaaacta aaattttataa aattttctct aattcaaaat taattattga atttttaaaa 720
gaagtgcata aagaaaattc tatattaaaa gacatagctg gagatttatt tgaagatata 780
taa 783

```

<210> 729

<211> 654

<212> DNA

<213> Homo sapiens

<400> 729

```

tgcgcttttt ttaagaaacc acaatctgta catcaagaca gcaatactgg caaaccaata 60
agcgatgaaa aattacattt aatatcaggc aaaatttcaa ataaaaaatt gccaatcata 120
aatagtaatc atgacgtaac ttggataaaa acaaggcaa tgacaatctt aggcgaagat 180
ggaaaaagaaa taccagaatt taaaaacaaa tttggatatt cttatataat atctcctgta 240
aaaatggatg gaaaatatag ttattacgctg tcattattaa tactttttga aacaactaaa 300
aatggagatg atgaatatga aattgaagat gttaaatttg taacagctgg ttccacccta 360
gaacttaaaa attctctttt agctgttgaa aattcacaa agaaaggata tgttactgca 420
taccatttgg gaattattg gatgacgag attaaaaatg cttttaaatt aacatataaa 480
aatgggtcatt ggaattatat gcttgcatg ttaactgtca aaaataaact tactcaagaa 540
actaaaattt ataaaatttc tcttaattca aaattaatta ttgaattttt aaaagaagtg 600
ctaaaagaaa attctatatt aaaagacata gctggagatt tatttgaaga tata 654

```

<210> 730

<211> 259

<212> PRT

<213> Homo sapiens

<400> 730

Phe Asn Val Asn Phe Asn Tyr Arg Leu Lys Lys Ala Leu Asn Gly Ile  
 1 5 10 15

Lys Glu Glu Asp Leu Met Val Phe Arg Thr Tyr Lys His Leu Glu Leu  
 20 25 30

Ile Met Leu Pro Met Leu Met Leu Ser Cys Ala Phe Phe Lys Lys Pro



35                      40                      45  
 Gln Ser Val His Gln Asp Ser Asn Thr Gly Lys Pro Ile Ser Asp Glu  
     50                      55                      60  
 Lys Leu His Leu Ile Ser Gly Lys Ile Ser Asn Lys Lys Leu Pro Ile  
     65                      70                      75                      80  
 Ile Asn Ser Asn His Asp Val Thr Trp Ile Lys Thr Lys Ala Met Thr  
                     85                      90                      95  
 Ile Leu Gly Glu Asp Gly Lys Glu Ile Pro Glu Phe Lys Asn Lys Phe  
                     100                      105                      110  
 Gly Tyr Ser Tyr Ile Ile Ser Pro Val Lys Met Asp Gly Lys Tyr Ser  
                     115                      120                      125  
 Tyr Tyr Ala Ser Leu Leu Ile Leu Phe Glu Thr Thr Lys Asn Gly Asp  
                     130                      135                      140  
 Asp Glu Tyr Glu Ile Glu Asp Val Lys Phe Val Thr Ala Gly Ser Thr  
                     145                      150                      155                      160  
 Leu Glu Leu Lys Asn Ser Leu Leu Ala Val Glu Asn Ser Gln Glu Glu  
                     165                      170                      175  
 Gly Tyr Val Thr Ala Tyr Pro Phe Gly Ile Leu Met Ser Asp Glu Ile  
                     180                      185                      190  
 Lys Asn Ala Phe Lys Leu Thr Tyr Lys Asn Gly His Trp Asn Tyr Met  
                     195                      200                      205  
 Leu Ala Asp Leu Thr Val Lys Asn Lys Leu Thr Gln Glu Thr Lys Ile  
                     210                      215                      220  
 Tyr Lys Ile Ser Leu Asn Ser Lys Leu Ile Ile Glu Phe Leu Lys Glu  
                     225                      230                      235                      240  
 Val Leu Lys Glu Asn Ser Ile Leu Lys Asp Ile Ala Gly Asp Leu Phe  
                     245                      250                      255  
 Glu Asp Ile

<210> 731  
 <211> 218  
 <212> PRT  
 <213> Homo sapiens

<400> 731  
 Cys Ala Phe Phe Lys Lys Pro Gln Ser Val His Gln Asp Ser Asn Thr  
     1                      5                      10                      15  
 Gly Lys Pro Ile Ser Asp Glu Lys Leu His Leu Ile Ser Gly Lys Ile  
                     20                      25                      30  
 Ser Asn Lys Lys Leu Pro Ile Ile Asn Ser Asn His Asp Val Thr Trp  
                     35                      40                      45

Ile Lys Thr Lys Ala Met Thr Ile Leu Gly Glu Asp Gly Lys Glu Ile  
 50 55 60  
 Pro Glu Phe Lys Asn Lys Phe Gly Tyr Ser Tyr Ile Ile Ser Pro Val  
 65 70 75 80  
 Lys Met Asp Gly Lys Tyr Ser Tyr Tyr Ala Ser Leu Leu Ile Leu Phe  
 85 90 95  
 Glu Thr Thr Lys Asn Gly Asp Asp Glu Tyr Glu Ile Glu Asp Val Lys  
 100 105 110  
 Phe Val Thr Ala Gly Ser Thr Leu Glu Leu Lys Asn Ser Leu Leu Ala  
 115 120 125  
 Val Glu Asn Ser Gln Glu Glu Gly Tyr Val Thr Ala Tyr Pro Phe Gly  
 130 135 140  
 Ile Leu Met Ser Asp Glu Ile Lys Asn Ala Phe Lys Leu Thr Tyr Lys  
 145 150 155 160  
 Asn Gly His Trp Asn Tyr Met Leu Ala Asp Leu Thr Val Lys Asn Lys  
 165 170 175  
 Leu Thr Gln Glu Thr Lys Ile Tyr Lys Ile Ser Leu Asn Ser Lys Leu  
 180 185 190  
 Ile Ile Glu Phe Leu Lys Glu Val Leu Lys Glu Asn Ser Ile Leu Lys  
 195 200 205  
 Asp Ile Ala Gly Asp Leu Phe Glu Asp Ile  
 210 215

<210> 732

<211> 1212

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (877)

<223> n equals a,t,g, or c

<400> 732

taattaccaa agataagtaa acttgcaaat aaaactacac gtattgaaag tagatttgaa 60  
 atttccatta tatatatata taatggcact aaatatctga aaatgaagga gaagcgggtg 120  
 ggcaataaaa ttttttatat ttcagtgggtt ttaattttta tagttgggtg cgactgggga 180  
 actattaaag ataaaagtac agaaatttcc aagctattaa gaacggacaa agataagact 240  
 aaaaatcaag atagaataga attgggtgaa gataattttg tatctaaaaa taatatgtct 300  
 actactgata cgggcattac tagtttagga agtctaaaca acttggattt aattaatcgt 360  
 tcacagcggg tcagtgaacc acctataatc tcaaagtgaaga agccatagc tactcaagca 420  
 aaagtagatt taatgaacaa cattaatggtt actataataa acccaaaacc agtcaaaaat 480  
 ttgggaaatt ctttaaacia tactactact gaagatagtg tgaagtgttt atcaattgaa 540  
 aaccaagagt ggcttattag taaaaagatt ttgcccagta agttggaaaa tttagaaagc 600  
 tttctaaaaa cacaacacga aaaagaagct ttttaagacgg ctaaaaactat acaaagtctc 660  
 attagtaatt ccaatatggg taaagaaatt attaagttta aggaagaata ttacaaactt 720  
 tataatttgt ttgaaggcat acaacaaaaa ttccatagtc aaaggaattc atttataaaa 780

```

gataactaaat ttggggaaaa tagacaaaaa aatgcagtta tatttaaadc cttttcatct 840
atagagaaaag aaattagaga tttgaattat aagttgngtg aaatccaaaag taattttcaa 900
attgcagatg ttagctggaa taatgcaaac tctcttttaa aagaatctat agaaaaatta 960
attcaggcaa ttgaaaaaag gtatgacaat gagagtagaa agcaagggtca aattggtgga 1020
cctgctaata gatgggataa aaatcaagct gacaattttg ctaaggatgc aaagtataag 1080
gcagaacatt cagcaaatga tttggaaaat gcagccaact atttttagata tagttgttca 1140
aatgaaaaag aagctaaaaa gctattagaa gaaattaaaa aaagatttgt acgaattggt 1200
attagcctat aa 1212

```

<210> 733

<211> 1041

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (709)

<223> n equals a,t,g, or c

<400> 733

```

tgcgactggg gaactatttaa agataaaaagt acagaaatth ccaagctatt aagaacggac 60
aaagataaga ctaaaaaatca agatagaata gaattgggtg aagataatth tgtatctaaa 120
aataatatgt ctactactga tacgggcatt actagtttag gaagtctaaa caacttggat 180
ttaattaatc gttcacagcg ggtcagtgaa ccacctataa tctcaaatga gaaagccata 240
gctactcaag caaaagtaga tttaatgaac aacattaatg ttactataat aaacccaaaa 300
ccagctcaaa atttgggaaa ttcttttaaac aatactacta ctgaagatag tgtgaagttt 360
ttatcaattg aaaaccaaga gtggcttatt agtaaaaaaga ttttgcccag taagttggaa 420
aatttagaaa gctttctaaa aacacaacac gaaaaagaag cttttaagac ggctaaaact 480
atacaaaagtc tcattagtaa ttccaatag ggtaaagaaa ttattaagtt taaggaagaa 540
tattacaaac tttataatth gtttgaaggc atacaacaaa aattccatag tcaaaggaat 600
tcatttataa aagatactaa atttggggaa aatagacaaa aaaatgcagt tatattttaa 660
tccttttcat ctatagagaa agaaattaga gatttgaatt ataagttgng tgaaatccaa 720
agtaattttc aaattgcaga tgtagctgg aataatgcaa actctctttt aaaagaatct 780
atagaaaaat taattcaggc aattgaaaaa aggtatgaca atgagagtag aaagcaagggt 840
caaattggtg gacctgctaa tagatgggat aaaaatcaag ctgacaatth tgctaaggat 900
gcaaagtata aggcagaaca ttcagcaaat gatttggaaa atgcagccaa ctatttttaga 960
tatagttggt caaatgaaaa agaagctaaa aagctattag aagaaattaa aaaaagattt 1020
gtacgaattg gtattagcct a 1041

```

<210> 734

<211> 402

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (292)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 734

```

Leu Pro Lys Ile Ser Lys Leu Ala Asn Lys Thr Thr Arg Ile Glu Ser
 1       5             10             15

Arg Phe Glu Ile Ser Ile Ile Phe Ile Tyr Asn Gly Thr Lys Tyr Leu
      20             25             30

Lys Met Lys Glu Lys Arg Val Gly Asn Lys Ile Phe Tyr Ile Ser Val
 35             40             45

```

Val	Leu	Ile	Leu	Ile	Val	Gly	Cys	Asp	Trp	Gly	Thr	Ile	Lys	Asp	Lys		
50						55					60						
Ser	Thr	Glu	Ile	Ser	Lys	Leu	Leu	Arg	Thr	Asp	Lys	Asp	Lys	Thr	Lys		
65					70					75					80		
Asn	Gln	Asp	Arg	Ile	Glu	Leu	Gly	Glu	Asp	Asn	Phe	Val	Ser	Lys	Asn		
				85					90					95			
Asn	Met	Ser	Thr	Thr	Asp	Thr	Gly	Ile	Thr	Ser	Leu	Gly	Ser	Leu	Asn		
			100					105					110				
Asn	Leu	Asp	Leu	Ile	Asn	Arg	Ser	Gln	Arg	Val	Ser	Glu	Pro	Pro	Ile		
		115					120					125					
Ile	Ser	Asn	Glu	Lys	Ala	Ile	Ala	Thr	Gln	Ala	Lys	Val	Asp	Leu	Met		
130						135					140						
Asn	Asn	Ile	Asn	Val	Thr	Ile	Ile	Asn	Pro	Lys	Pro	Ala	Gln	Asn	Leu		
145					150					155					160		
Gly	Asn	Ser	Leu	Asn	Asn	Thr	Thr	Thr	Glu	Asp	Ser	Val	Lys	Phe	Leu		
				165					170					175			
Ser	Ile	Glu	Asn	Gln	Glu	Trp	Leu	Ile	Ser	Lys	Lys	Ile	Leu	Pro	Ser		
			180					185					190				
Lys	Leu	Glu	Asn	Leu	Glu	Ser	Phe	Leu	Lys	Thr	Gln	His	Glu	Lys	Glu		
		195					200					205					
Ala	Phe	Lys	Thr	Ala	Lys	Thr	Ile	Gln	Ser	Leu	Ile	Ser	Asn	Ser	Asn		
	210					215					220						
Met	Gly	Lys	Glu	Ile	Ile	Lys	Phe	Lys	Glu	Glu	Tyr	Tyr	Lys	Leu	Tyr		
225					230					235					240		
Asn	Leu	Phe	Glu	Gly	Ile	Gln	Gln	Lys	Phe	His	Ser	Gln	Arg	Asn	Ser		
				245					250					255			
Phe	Ile	Lys	Asp	Thr	Lys	Phe	Gly	Glu	Asn	Arg	Gln	Lys	Asn	Ala	Val		
			260					265					270				
Ile	Phe	Lys	Ser	Phe	Ser	Ser	Ile	Glu	Lys	Glu	Ile	Arg	Asp	Leu	Asn		
		275					280					285					
Tyr	Lys	Leu	Xaa	Glu	Ile	Gln	Ser	Asn	Phe	Gln	Ile	Ala	Asp	Val	Ser		
	290					295					300						
Trp	Asn	Asn	Ala	Asn	Ser	Leu	Leu	Lys	Glu	Ser	Ile	Glu	Lys	Leu	Ile		
305					310					315					320		
Gln	Ala	Ile	Glu	Lys	Arg	Tyr	Asp	Asn	Glu	Ser	Arg	Lys	Gln	Gly	Gln		
				325					330					335			
Ile	Gly	Gly	Pro	Ala	Asn	Arg	Trp	Asp	Lys	Asn	Gln	Ala	Asp	Asn	Phe		
			340					345					350				

Ala Lys Asp Ala Lys Tyr Lys Ala Glu His Ser Ala Asn Asp Leu Glu  
355 360 365

Asn Ala Ala Asn Tyr Phe Arg Tyr Ser Cys Ser Asn Glu Lys Glu Ala  
370 375 380

Lys Lys Leu Leu Glu Glu Ile Lys Lys Arg Phe Val Arg Ile Gly Ile  
385 390 395 400

Ser Leu

<210> 735

<211> 347

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (237)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 735

Cys Asp Trp Gly Thr Ile Lys Asp Lys Ser Thr Glu Ile Ser Lys Leu  
1 5 10 15

Leu Arg Thr Asp Lys Asp Lys Thr Lys Asn Gln Asp Arg Ile Glu Leu  
20 25 30

Gly Glu Asp Asn Phe Val Ser Lys Asn Asn Met Ser Thr Thr Asp Thr  
35 40 45

Gly Ile Thr Ser Leu Gly Ser Leu Asn Asn Leu Asp Leu Ile Asn Arg  
50 55 60

Ser Gln Arg Val Ser Glu Pro Pro Ile Ile Ser Asn Glu Lys Ala Ile  
65 70 75 80

Ala Thr Gln Ala Lys Val Asp Leu Met Asn Asn Ile Asn Val Thr Ile  
85 90 95

Ile Asn Pro Lys Pro Ala Gln Asn Leu Gly Asn Ser Leu Asn Asn Thr  
100 105 110

Thr Thr Glu Asp Ser Val Lys Phe Leu Ser Ile Glu Asn Gln Glu Trp  
115 120 125

Leu Ile Ser Lys Lys Ile Leu Pro Ser Lys Leu Glu Asn Leu Glu Ser  
130 135 140

Phe Leu Lys Thr Gln His Glu Lys Glu Ala Phe Lys Thr Ala Lys Thr  
145 150 155 160

Ile Gln Ser Leu Ile Ser Asn Ser Asn Met Gly Lys Glu Ile Ile Lys  
165 170 175

Phe Lys Glu Glu Tyr Tyr Lys Leu Tyr Asn Leu Phe Glu Gly Ile Gln  
180 185 190

Gln Lys Phe His Ser Gln Arg Asn Ser Phe Ile Lys Asp Thr Lys Phe  
 195 200 205  
 Gly Glu Asn Arg Gln Lys Asn Ala Val Ile Phe Lys Ser Phe Ser Ser  
 210 215 220  
 Ile Glu Lys Glu Ile Arg Asp Leu Asn Tyr Lys Leu Xaa Glu Ile Gln  
 225 230 235 240  
 Ser Asn Phe Gln Ile Ala Asp Val Ser Trp Asn Asn Ala Asn Ser Leu  
 245 250 255  
 Leu Lys Glu Ser Ile Glu Lys Leu Ile Gln Ala Ile Glu Lys Arg Tyr  
 260 265 270  
 Asp Asn Glu Ser Arg Lys Gln Gly Gln Ile Gly Gly Pro Ala Asn Arg  
 275 280 285  
 Trp Asp Lys Asn Gln Ala Asp Asn Phe Ala Lys Asp Ala Lys Tyr Lys  
 290 295 300  
 Ala Glu His Ser Ala Asn Asp Leu Glu Asn Ala Ala Asn Tyr Phe Arg  
 305 310 315 320  
 Tyr Ser Cys Ser Asn Glu Lys Glu Ala Lys Lys Leu Leu Glu Glu Ile  
 325 330 335  
 Lys Lys Arg Phe Val Arg Ile Gly Ile Ser Leu  
 340 345

<210> 736

<211> 447

<212> DNA

<213> Homo sapiens

<400> 736

taaataaatt gtaggataaa aatgaaacaa aaatacgaaa actattttaa aaaaagatta 60  
 attttaaac tattaatatt ttactacta gcatgctcaa gcgaatccat attttcacia 120  
 ttaggaaatc tgcaaaaaat aaaacatgaa tacaatattt tgggcagttc aagtccaaga 180  
 ggaatttctc tagtaggaga aactctctac attgcagcca tgcatttatt taaaaaagaa 240  
 aacggcaaga ttgaaaaaat tgatttgagc aattcttatg agtttataaa cgacattgta 300  
 aatataatctg gaaaaaccta tcttttagcg caaaacaaag aagaagaatt agaagtttgc 360  
 gagctaaatg gaaaagattg gacattaaaa tttaaaaaac cgctaaaagc atataaattc 420  
 ttaaaatccg tagaagagat ggcgtaa 447

<210> 737

<211> 351

<212> DNA

<213> Homo sapiens

<400> 737

tgctcaagcg aatccatatt ttcacaatta ggaaatctgc aaaaaataaa acatgaatac 60  
 aatattttgg gcagttcaag tccaagagga atttctctag taggagaaac tctctacatt 120  
 gcagccatgc atttatttaa aaaagaaaac ggcaagattg aaaaaattga tttgagcaat 180  
 tcttatgagt ttataaacga cattgttaat atatctggaa aaacctatct tttagcgcaa 240  
 aacaaagaag aagaattaga agtttgcgag ctaaatggaa aagattggac attaaaattt 300  
 aaaaaaccgc taaaagcata taaattctta aaatccgtag aagagatggc g 351

&lt;210&gt; 738

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 738

Ile Asn Cys Arg Ile Lys Met Lys Gln Lys Tyr Glu Asn Tyr Phe Lys  
 1 5 10 15

Lys Arg Leu Ile Leu Asn Leu Leu Ile Phe Leu Leu Leu Ala Cys Ser  
 20 25 30

Ser Glu Ser Ile Phe Ser Gln Leu Gly Asn Leu Gln Lys Ile Lys His  
 35 40 45

Glu Tyr Asn Ile Leu Gly Ser Ser Ser Pro Arg Gly Ile Ser Leu Val  
 50 55 60

Gly Glu Thr Leu Tyr Ile Ala Ala Met His Leu Phe Lys Lys Glu Asn  
 65 70 75 80

Gly Lys Ile Glu Lys Ile Asp Leu Ser Asn Ser Tyr Glu Phe Ile Asn  
 85 90 95

Asp Ile Val Asn Ile Ser Gly Lys Thr Tyr Leu Leu Ala Gln Asn Lys  
 100 105 110

Glu Glu Glu Leu Glu Val Cys Glu Leu Asn Gly Lys Asp Trp Thr Leu  
 115 120 125

Lys Phe Lys Lys Pro Leu Lys Ala Tyr Lys Phe Leu Lys Ser Val Glu  
 130 135 140

Glu Met Ala  
 145

&lt;210&gt; 739

&lt;211&gt; 117

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 739

Cys Ser Ser Glu Ser Ile Phe Ser Gln Leu Gly Asn Leu Gln Lys Ile  
 1 5 10 15

Lys His Glu Tyr Asn Ile Leu Gly Ser Ser Ser Pro Arg Gly Ile Ser  
 20 25 30

Leu Val Gly Glu Thr Leu Tyr Ile Ala Ala Met His Leu Phe Lys Lys  
 35 40 45

Glu Asn Gly Lys Ile Glu Lys Ile Asp Leu Ser Asn Ser Tyr Glu Phe  
 50 55 60

Ile Asn Asp Ile Val Asn Ile Ser Gly Lys Thr Tyr Leu Leu Ala Gln  
 65 70 75 80

```
<220>  
<221> misc feature
```



<222> (189)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (191)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (200)  
 <223> n equals a,t,g, or c

<400> 741  
 tggtatttgc ctgataatca ggaacaagct gttcaaactt tttttgagaa ttcggaaagt 60  
 agtgatatgg gttccgatga gattgttact gaaggcatat tttctagttt aaaattatat 120  
 gcgtctgaac atcgttttatt gggtgagata aaaaagactt taattagttt aaaagatcct 180  
 aattatcnng ntgtagtacn cccagtgaag gactataatg aggagtattt taataaattc 240  
 tttctagatt taggggtctga gcaatctaaa gacctgatta agttgtttat tatggtaaaa 300  
 aatgagcaga acaataataa atttatgcgt atagttcggt ggctgtattc atgtatagag 360  
 gagttatatt ctctagatat taagtattct ggcgaggga gccatgagta taatcgtaat 420  
 atgcctagac ccactgctta tgaacaatat ttaaaagtga agaggtatga ttataat 477

<210> 742  
 <211> 186  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> SITE  
 <222> (82)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (83)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (86)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<400> 742  
 Gly Ala Tyr Met Arg Ile Leu Val Gly Val Cys Ile Ile Ala Leu Ala  
 1 5 10 15  
 Leu Leu Gly Cys Tyr Leu Pro Asp Asn Gln Glu Gln Ala Val Gln Thr  
 20 25 30  
 Phe Phe Glu Asn Ser Glu Ser Ser Asp Met Gly Ser Asp Glu Ile Val  
 35 40 45  
 Thr Glu Gly Ile Phe Ser Ser Leu Lys Leu Tyr Ala Ser Glu His Arg  
 50 55 60  
 Leu Leu Val Glu Ile Lys Lys Thr Leu Ile Ser Leu Lys Asp Pro Asn  
 65 70 75 80

Tyr Xaa Xaa Val Val Xaa Pro Val Ser Asp Tyr Asn Glu Glu Tyr Phe  
85 90 95

Asn Lys Phe Phe Leu Asp Leu Gly Ser Glu Gln Ser Lys Asp Leu Ile  
100 105 110

Lys Leu Phe Ile Met Val Lys Asn Glu Gln Asn Asn Lys Phe Met  
115 120 125

Arg Ile Val Arg Trp Leu Tyr Ser Cys Ile Glu Glu Leu Tyr Ser Leu  
130 135 140

Asp Ile Lys Tyr Ser Gly Glu Gly Ser His Glu Tyr Asn Arg Asn Met  
145 150 155 160

Pro Arg Pro Thr Ala Tyr Glu Gln Tyr Leu Lys Val Lys Arg Tyr Asp  
165 170 175

Tyr Asn Ser Pro Val Ser Ile Leu Pro Thr  
180 185

<210> 743

<211> 159

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (63)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (64)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (67)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 743

Cys Tyr Leu Pro Asp Asn Gln Glu Gln Ala Val Gln Thr Phe Phe Glu  
1 5 10 15

Asn Ser Glu Ser Ser Asp Met Gly Ser Asp Glu Ile Val Thr Glu Gly  
20 25 30

Ile Phe Ser Ser Leu Lys Leu Tyr Ala Ser Glu His Arg Leu Leu Val  
35 40 45

Glu Ile Lys Lys Thr Leu Ile Ser Leu Lys Asp Pro Asn Tyr Xaa Xaa  
50 55 60

Val Val Xaa Pro Val Ser Asp Tyr Asn Glu Glu Tyr Phe Asn Lys Phe  
65 70 75 80

Phe Leu Asp Leu Gly Ser Glu Gln Ser Lys Asp Leu Ile Lys Leu Phe  
85 90 95

Ile Met Val Lys Asn Glu Gln Asn Asn Asn Lys Phe Met Arg Ile Val  
100 105 110

Arg Trp Leu Tyr Ser Cys Ile Glu Glu Leu Tyr Ser Leu Asp Ile Lys  
115 120 125

Tyr Ser Gly Glu Gly Ser His Glu Tyr Asn Arg Asn Met Pro Arg Pro  
130 135 140

Thr Ala Tyr Glu Gln Tyr Leu Lys Val Lys Arg Tyr Asp Tyr Asn  
145 150 155

<210> 744

<211> 1011

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (557)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (572)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (573)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (893)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (897)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (906)

<223> n equals a,t,g, or c

<400> 744

taaagtattt tatttttttt attatccact gttotttttg ctcaagagac tgatggatta 60  
gcagagggtt ctaaaagggc agagcctgga gaattagttt tagattttgc cgagcttgca 120  
agagatccaa gttcaactag acttgatctt acaaattatg ttgattatgt atattcgggc 180  
gcttctggta ttgttaagcc ggaagatatg gttgtagatc ttgggataaa taattggagc 240  
gttttactta ctcttctgc aagggttcag gcttacgtta aaaattcagt tgttgcgcc 300  
gctgttgta agagtgagtc aaaaaggtac gcaggtgata ctattttagg ggtaagagtt 360  
ttgtttccaa gctattctca atcatctgct atgattatgc caccatttaa aattcctttt 420

```

tattcagggg aaagtggcaa tcaattttta ggcaaaggtc ttattgataa cattaaaacc 480
atgaaagaaa ttaagggtatc tgtttatagt ttaggggatg agatagatct tgagggttta 540
tttgaagata tgaatgncat ggaatatgct tnntctatgg gtacttttaa gtttaaaggg 600
tgggctgatt taatttggtc aaatcctaac tatattccta atatatcatc cagaattatt 660
aaagacgatg ttccaaatta tcctcttgct tcaagtaaaa tgagatttaa ggcttttaga 720
gtttcaaagt cacacagttc aaaagagcaa aatttcatct tttatgttaa agatttaaga 780
gttctttatg ataagttgag tgtttcaata gattctgata ttgacagtga gtctgtattt 840
aaagtttatg agactagcgg aactgaatcc ctctgtaaat taaaggcaca cgnaacnttt 900
aaaagngttt taaagcttag agaaaaaatt tctatgcctg aaggctcttt ccaaaacttt 960
gtagaaaaga ttgagagtga aaaacctgaa gaatcatctc cgaaaaatta g 1011

```

<210> 745

<211> 945

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (494)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (509)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (510)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (830)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (834)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (843)

<223> n equals a,t,g, or c

<400> 745

```

gaggggttcta aaagggcaga gcctggagaa ttagttttag attttgccga gcttgcaaga 60
gatccaagtt caactagact tgatcttaca aattatgttg attatgtata ttcgggcgct 120
tctgggtattg ttaagccgga agatatgggt gtagatcttg ggataaataa ttggagcggt 180
ttacttactc ctctgcaag gttgcaggct tacgttaaaa attcagttgt tgcgcccgt 240
gttggttaaga gtgagtcaaa aaggtacgca ggtgatacta ttttaggggt aagagttttg 300
tttccaagct attctcaatc atctgctatg attatgccac catttaaaat tcctttttat 360
tcaggggaaa gtggcaatca atttttaggc aaaggctcta ttgataacat taaaaccatg 420
aaagaaatta aggtatctgt ttatagttta gggatatgaga tagatcttga ggttttattt 480
gaagatatga atgncatgga atatgcttnn tctatgggta ctttaaagtt taaagggtgg 540
gctgatttaa tttggtaaaa tcctaactat attcctaata tatcatccag aattattaaa 600
gacgatgttc caaattatcc tcttgcttca agtaaaatga gatttaaggc ttttagagtt 660

```

```

tcaaagtcac acagttcaaa agagcaaaat ttcatctttt atgttaaaga ttttaagagtt 720
ctttatgata agttgagtgt ttcaatagat tctgatattg acagtgagtc tgtattttaa 780
gtttatgaga ctagcggaac tgaatccctt cgtaaattaa aggcacacgn aacnttttaa 840
agngttttta agcttagaga aaaaatttct atgcctgaag gctctttcca aaactttgta 900
gaaaagattg agagtgaaaa acctgaagaa tcatctccga aaaat 945

```

<210> 746

<211> 335

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (185)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (190)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (297)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (301)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 746

```

Ser Ile Leu Phe Phe Leu Leu Ser Thr Val Leu Phe Ala Gln Glu Thr
  1               5               10               15

```

```

Asp Gly Leu Ala Glu Gly Ser Lys Arg Ala Glu Pro Gly Glu Leu Val
      20               25               30

```

```

Leu Asp Phe Ala Glu Leu Ala Arg Asp Pro Ser Ser Thr Arg Leu Asp
    35               40               45

```

```

Leu Thr Asn Tyr Val Asp Tyr Val Tyr Ser Gly Ala Ser Gly Ile Val
    50               55               60

```

```

Lys Pro Glu Asp Met Val Val Asp Leu Gly Ile Asn Asn Trp Ser Val
    65               70               75               80

```

```

Leu Leu Thr Pro Ser Ala Arg Leu Gln Ala Tyr Val Lys Asn Ser Val
      85               90               95

```

```

Val Ala Pro Ala Val Val Lys Ser Glu Ser Lys Arg Tyr Ala Gly Asp
    100               105               110

```

```

Thr Ile Leu Gly Val Arg Val Leu Phe Pro Ser Tyr Ser Gln Ser Ser
    115               120               125

```

```

Ala Met Ile Met Pro Pro Phe Lys Ile Pro Phe Tyr Ser Gly Glu Ser
    130               135               140

```

Gly Asn Gln Phe Leu Gly Lys Gly Leu Ile Asp Asn Ile Lys Thr Met  
 145 150 155 160  
 Lys Glu Ile Lys Val Ser Val Tyr Ser Leu Gly Tyr Glu Ile Asp Leu  
 165 170 175  
 Glu Val Leu Phe Glu Asp Met Asn Xaa Met Glu Tyr Ala Xaa Ser Met  
 180 185 190  
 Gly Thr Leu Lys Phe Lys Gly Trp Ala Asp Leu Ile Trp Ser Asn Pro  
 195 200 205  
 Asn Tyr Ile Pro Asn Ile Ser Ser Arg Ile Ile Lys Asp Asp Val Pro  
 210 215 220  
 Asn Tyr Pro Leu Ala Ser Ser Lys Met Arg Phe Lys Ala Phe Arg Val  
 225 230 235 240  
 Ser Lys Ser His Ser Ser Lys Glu Gln Asn Phe Ile Phe Tyr Val Lys  
 245 250 255  
 Asp Leu Arg Val Leu Tyr Asp Lys Leu Ser Val Ser Ile Asp Ser Asp  
 260 265 270  
 Ile Asp Ser Glu Ser Val Phe Lys Val Tyr Glu Thr Ser Gly Thr Glu  
 275 280 285  
 Ser Leu Arg Lys Leu Lys Ala His Xaa Thr Phe Lys Xaa Val Leu Lys  
 290 295 300  
 Leu Arg Glu Lys Ile Ser Met Pro Glu Gly Ser Phe Gln Asn Phe Val  
 305 310 315 320  
 Glu Lys Ile Glu Ser Glu Lys Pro Glu Glu Ser Ser Pro Lys Asn  
 325 330 335

<210> 747

<211> 315

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (165)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (170)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (277)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

&lt;221&gt; SITE

&lt;222&gt; (281)

&lt;223&gt; Xaa equals any of the naturally occurring L-amino acids

&lt;400&gt; 747

Glu	Gly	Ser	Lys	Arg	Ala	Glu	Pro	Gly	Glu	Leu	Val	Leu	Asp	Phe	Ala
1				5					10					15	

Glu	Leu	Ala	Arg	Asp	Pro	Ser	Ser	Thr	Arg	Leu	Asp	Leu	Thr	Asn	Tyr
			20					25					30		

Val	Asp	Tyr	Val	Tyr	Ser	Gly	Ala	Ser	Gly	Ile	Val	Lys	Pro	Glu	Asp
		35					40					45			

Met	Val	Val	Asp	Leu	Gly	Ile	Asn	Asn	Trp	Ser	Val	Leu	Leu	Thr	Pro
	50					55					60				

Ser	Ala	Arg	Leu	Gln	Ala	Tyr	Val	Lys	Asn	Ser	Val	Val	Ala	Pro	Ala
65					70					75					80

Val	Val	Lys	Ser	Glu	Ser	Lys	Arg	Tyr	Ala	Gly	Asp	Thr	Ile	Leu	Gly
				85					90					95	

Val	Arg	Val	Leu	Phe	Pro	Ser	Tyr	Ser	Gln	Ser	Ser	Ala	Met	Ile	Met
		100						105					110		

Pro	Pro	Phe	Lys	Ile	Pro	Phe	Tyr	Ser	Gly	Glu	Ser	Gly	Asn	Gln	Phe
		115					120					125			

Leu	Gly	Lys	Gly	Leu	Ile	Asp	Asn	Ile	Lys	Thr	Met	Lys	Glu	Ile	Lys
	130					135					140				

Val	Ser	Val	Tyr	Ser	Leu	Gly	Tyr	Glu	Ile	Asp	Leu	Glu	Val	Leu	Phe
145					150					155					160

Glu	Asp	Met	Asn	Xaa	Met	Glu	Tyr	Ala	Xaa	Ser	Met	Gly	Thr	Leu	Lys
			165						170					175	

Phe	Lys	Gly	Trp	Ala	Asp	Leu	Ile	Trp	Ser	Asn	Pro	Asn	Tyr	Ile	Pro
			180					185					190		

Asn	Ile	Ser	Ser	Arg	Ile	Ile	Lys	Asp	Asp	Val	Pro	Asn	Tyr	Pro	Leu
		195					200					205			

Ala	Ser	Ser	Lys	Met	Arg	Phe	Lys	Ala	Phe	Arg	Val	Ser	Lys	Ser	His
	210					215					220				

Ser	Ser	Lys	Glu	Gln	Asn	Phe	Ile	Phe	Tyr	Val	Lys	Asp	Leu	Arg	Val
225					230					235					240

Leu	Tyr	Asp	Lys	Leu	Ser	Val	Ser	Ile	Asp	Ser	Asp	Ile	Asp	Ser	Glu
			245						250					255	

Ser	Val	Phe	Lys	Val	Tyr	Glu	Thr	Ser	Gly	Thr	Glu	Ser	Leu	Arg	Lys
		260							265					270	

Leu	Lys	Ala	His	Xaa	Thr	Phe	Lys	Xaa	Val	Leu	Lys	Leu	Arg	Glu	Lys
		275					280					285			

Ile Ser Met Pro Glu Gly Ser Phe Gln Asn Phe Val Glu Lys Ile Glu  
 290 295 300

Ser Glu Lys Pro Glu Glu Ser Ser Pro Lys Asn  
 305 310 315

<210> 748

<211> 477

<212> DNA

<213> Homo sapiens

<400> 748

tgaatattaa taataaaaaa aggagtaaca atgaaaatca tcaacatatt attttggttta 60  
 tttttactaa tgctaaacgg ctgtaattct aatgataatg acacttttaa aaacaatgcc 120  
 caacaaacaa aaagacgggg aaagcgtgat ttaacccaaa aagaaacaac acaagaaaaa 180  
 ccaaaatcta aagaagaact acttagagaa aagctatctg acgatcaaaa aacacatctt 240  
 gactgggttaa aacccgcttt aactgggtgt ggagaatttg acaaattctt agaaaatgat 300  
 gatgataaaa taaaatcagc acttgatcat ataaaaactc aacttgatag ttgtaatggt 360  
 gatcaagcag aacaacaaaa aaccactttc aaaactgtgg ttacagaatt ctttaaaaaa 420  
 ggtgatatag ataattttgc aactggagcg gttagtaact gcaataatgg tggctaa 477

<210> 749

<211> 393

<212> DNA

<213> Homo sapiens

<400> 749

tgtaattcta atgataatga cactttaaaa aacaatgccc aacaaacaaa aagacgggga 60  
 aagcgtgatt taacccaaaa agaaacaaca caagaaaaac caaaatctaa agaagaacta 120  
 cttagagaaa agctatctga cgatcaaaaa acacatcttg actgggttaa acccgcttta 180  
 actgggtgctg gagaatttga caaattctta gaaaatgatg atgataaaat aaaatcagca 240  
 cttgatcata taaaaactca acttgatagt tgtaatgggt atcaagcaga acaacaaaaa 300  
 accactttca aaactgtggt tacagaattc tttaaaaatg gtgatataga taattttgca 360  
 actggagcgg ttagtaactg caataatggt ggc 393

<210> 750

<211> 157

<212> PRT

<213> Homo sapiens

<400> 750

Ile Leu Ile Ile Lys Lys Gly Val Thr Met Lys Ile Ile Asn Ile Leu  
 1 5 10 15

Phe Cys Leu Phe Leu Leu Met Leu Asn Gly Cys Asn Ser Asn Asp Asn  
 20 25 30

Asp Thr Leu Lys Asn Asn Ala Gln Gln Thr Lys Arg Arg Gly Lys Arg  
 35 40 45

Asp Leu Thr Gln Lys Glu Thr Thr Gln Glu Lys Pro Lys Ser Lys Glu  
 50 55 60

Glu Leu Leu Arg Glu Lys Leu Ser Asp Asp Gln Lys Thr His Leu Asp  
 65 70 75 80

Trp Leu Lys Pro Ala Leu Thr Gly Ala Gly Glu Phe Asp Lys Phe Leu



85

90

95

Glu Asn Asp Asp Asp Lys Ile Lys Ser Ala Leu Asp His Ile Lys Thr  
100 105 110

Gln Leu Asp Ser Cys Asn Gly Asp Gln Ala Glu Gln Gln Lys Thr Thr  
115 120 125

Phe Lys Thr Val Val Thr Glu Phe Phe Lys Asn Gly Asp Ile Asp Asn  
130 135 140

Phe Ala Thr Gly Ala Val Ser Asn Cys Asn Asn Gly Gly  
145 150 155

<210> 751

<211> 131

<212> PRT

<213> Homo sapiens

<400> 751

Cys Asn Ser Asn Asp Asn Asp Thr Leu Lys Asn Asn Ala Gln Gln Thr  
1 5 10 15

Lys Arg Arg Gly Lys Arg Asp Leu Thr Gln Lys Glu Thr Thr Gln Glu  
20 25 30

Lys Pro Lys Ser Lys Glu Glu Leu Leu Arg Glu Lys Leu Ser Asp Asp  
35 40 45

Gln Lys Thr His Leu Asp Trp Leu Lys Pro Ala Leu Thr Gly Ala Gly  
50 55 60

Glu Phe Asp Lys Phe Leu Glu Asn Asp Asp Asp Lys Ile Lys Ser Ala  
65 70 75 80

Leu Asp His Ile Lys Thr Gln Leu Asp Ser Cys Asn Gly Asp Gln Ala  
85 90 95

Glu Gln Gln Lys Thr Thr Phe Lys Thr Val Val Thr Glu Phe Phe Lys  
100 105 110

Asn Gly Asp Ile Asp Asn Phe Ala Thr Gly Ala Val Ser Asn Cys Asn  
115 120 125

Asn Gly Gly  
130

<210> 752

<211> 453

<212> DNA

<213> Homo sapiens

<400> 752

tgaatattaa taataaaaaa aggaataata atgaaaatta tcaacatatt attttggtta 60  
tttttactaa tgctaaacgg ctgtaattct aatgatacta ataatagcca aacaaaaagt 120  
agacaaaaac gtgatttaac ccaaaaagaa gcaacacaag aaaaacctaa atctaaagaa 180  
gaacttctta gagaaaagct aaatgataat caaaaaacac accttgactg gttaaaagaa 240  
gctctgggca atgatggaga atttaataaa tttttaggat atgatgaaag caaaataaaa 300

tctgcacttg atcatataaa gagtgaactt gacagttgta ctggagataa ggttgaaaat 360  
 aaaaatacct tcaagcaggt cgttcaggag gcccttaaag ggggcataga cggctttgaa 420  
 aatactgcaa gtagtacgtg caaaaattca taa 453

<210> 753

<211> 369

<212> DNA

<213> Homo sapiens

<400> 753

tgtaattcta atgatactaa taatagccaa acaaaaagta gacaaaaaacg tgatttaacc 60  
 caaaaagaag caacacaaga aaaacctaag tctaaagaag aacttcttag agaaaagcta 120  
 aatgataatc aaaaaacaca ccttgactgg ttaaaagaag ctctgggcaa tgatggagaa 180  
 ttttaataaat ttttaggata tgatgaaagc aaaataaaat ctgcacttga tcatataaag 240  
 agtgaacttg acagttgtac tggagataag gttgaaaata aaaatacctt caagcaggtc 300  
 gttcaggagg cccttaaagg gggcatagac ggctttgaaa atactgcaag tagtacgtgc 360  
 aaaaattca 369

<210> 754

<211> 149

<212> PRT

<213> Homo sapiens

<400> 754

Ile Leu Ile Ile Lys Lys Gly Ile Ile Met Lys Ile Ile Asn Ile Leu  
 1 5 10 15  
 Phe Cys Leu Phe Leu Leu Met Leu Asn Gly Cys Asn Ser Asn Asp Thr  
 20 25 30  
 Asn Asn Ser Gln Thr Lys Ser Arg Gln Lys Arg Asp Leu Thr Gln Lys  
 35 40 45  
 Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys Glu Glu Leu Leu Arg Glu  
 50 55 60  
 Lys Leu Asn Asp Asn Gln Lys Thr His Leu Asp Trp Leu Lys Glu Ala  
 65 70 75 80  
 Leu Gly Asn Asp Gly Glu Phe Asn Lys Phe Leu Gly Tyr Asp Glu Ser  
 85 90 95  
 Lys Ile Lys Ser Ala Leu Asp His Ile Lys Ser Glu Leu Asp Ser Cys  
 100 105 110  
 Thr Gly Asp Lys Val Glu Asn Lys Asn Thr Phe Lys Gln Val Val Gln  
 115 120 125  
 Glu Ala Leu Lys Gly Gly Ile Asp Gly Phe Glu Asn Thr Ala Ser Ser  
 130 135 140  
 Thr Cys Lys Asn Ser  
 145

<210> 755

<211> 123

<212> PRT

<213> Homo sapiens

&lt;400&gt; 755

Cys Asn Ser Asn Asp Thr Asn Asn Ser Gln Thr Lys Ser Arg Gln Lys  
 1 5 10 15

Arg Asp Leu Thr Gln Lys Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys  
 20 25 30

Glu Glu Leu Leu Arg Glu Lys Leu Asn Asp Asn Gln Lys Thr His Leu  
 35 40 45

Asp Trp Leu Lys Glu Ala Leu Gly Asn Asp Gly Glu Phe Asn Lys Phe  
 50 55 60

Leu Gly Tyr Asp Glu Ser Lys Ile Lys Ser Ala Leu Asp His Ile Lys  
 65 70 75 80

Ser Glu Leu Asp Ser Cys Thr Gly Asp Lys Val Glu Asn Lys Asn Thr  
 85 90 95

Phe Lys Gln Val Val Gln Glu Ala Leu Lys Gly Gly Ile Asp Gly Phe  
 100 105 110

Glu Asn Thr Ala Ser Ser Thr Cys Lys Asn Ser  
 115 120